Computers in the Classroom:

Teaching & Learning with Technology

TEC 938

Fresno Pacific University

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Course Syllabus

TEC 938: Computers in the Classroom: Teaching and Learning with Technology
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Fresno CA 93730

Course Description

With most schools now realizing their goal of “a computer in every classroom,” increasingly I hear teachers lament, “Now that it’s here, what am I supposed to DO with it?” This course offers answers to this ever more prevalent question. Mastery of technology is the key to the successful future of our youth. Teachers have a responsibility to elevate their understanding of and expertise in computers, ultimately integrating technology into their curriculum in useful and meaningful ways. In doing so, they can pass along invaluable skills to their students. This course begins by discussing the methodologies and benefits of integrating technology across the curriculum. Learning theory and social contexts, including special-needs students, gender equity, and equality of access, are also addressed. Participants are then presented with a variety of hands-on exercises designed to model effective implementation of technology in the classroom. Instructor support is readily available by email or phone. All assignments may be completed without classroom participation.

IMPORTANT NOTE: A Google account (free) is required to upload certain projects to the instructor.

For information on the Fresno Pacific University Academic Policies and Procedures for Independent Study Courses go online to https://ce.fresno.edu and click the ‘CE Policies and Procedures’ link at the bottom of the page.

Course Dates:

Enrollment is open and ongoing, so you may enroll at any time then have no less than three weeks and up to one year from the official date of registration to complete the course.

Primary Learning Outcomes

Upon completion of the course participants shall:

- Become familiar with the terms of learning theory as it pertains to learning with technology.
- Understand the teacher's role in successfully utilizing computers in the classroom.
- Use modeled teaching strategies to instruct others in the techniques of instructing with technology.
- Develop classroom management strategies when working with computers.
- Identify uses of technology for peer-to-peer and student communication.
- Gain hands - on experience in creating curriculum-specific projects utilizing

  Word Processing
  Graphics
  Spreadsheets
  Internet
  Multimedia
  Video and Animation

Standards - Based Instruction

. . .To ensure that students are prepared for their future we should: include technology and information literacy in state and local standards for what students should know and be able to do; ensure students use technology appropriately and responsibly; develop new student assessment tools; and strengthen partnerships with industry to help meet the work force needs of the future.

Taken from the Executive Summary of the U.S. Department of Education National Education Technology Plan (http://www.ed.gov/Technology/elearning/)

Assignments contained within this course meet several important proficiency guidelines as defined by ISTE (International Society for Technology in Education). The ISTE Standards provide a framework for learning, teaching and leading that is amplified by technology. They provide a road map for educators worldwide as they navigate decisions about curriculum, instruction, professional learning and the transformation of pedagogy with technology.
For more about ISTE and the ISTE standards go to: www.iste.org/standards

The seven Educator Standards are:

1. **Learner** - Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning.

2. **Leader** - Educators seek out opportunities for leadership to support student empowerment and success and improve teaching and learning.

3. **Citizen** - Educators inspire students to positively contribute to and responsibly participate in the digital world.

4. **Collaborator** - Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems.

5. **Designer** - Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability.

6. **Facilitator** - Educators facilitate learning with technology to support student achievement of the 2016 ISTE Standards for Students.

7. **Analyst** - Educators understand and use data to drive their instruction and support students in achieving their learning goals

Each standard is broken down into several subsections (a, b, c, etc.). The relevancy of these standards to this course is one of awareness and familiarity. Later in the course you will be asked to select a number of assignments and assign an ISTE standard and subsection to them.

Course Materials

Workbook: 'Computers in the Classroom: Teaching & Learning with Technology' by Steve Young

Course website: Contains demonstration software, PDF forms and supplemental instructional materials.

Course Requirements

Knowledge of basic computer applications assumed. Computer with Internet access and a Google account (free) is required.

Schedule of Topics and Assignments

Part 1 - Theory (49 points possible)

Assignments 1 ~ 12	Point Value
• Assignment 1: Your Technology Background	3 points
• Assignment 2: Your Technology Profile	3 points
• Assignment 3: Student Learning Environment	3 points
• Assignment 4: Technology Integration	5 points
• Assignment 5: Connectivism	5 points
• Assignment 6: Lifelong Learning	5 points
• Assignment 7: Digital Equity	5 points
• Assignment 8: Online Safety	5 points
• Assignment 9: Software Inventory	5 points
• Assignment 10: Software Evaluation (2 @ 2.5 pts. ea.)	5 points
• Assignment 11: Trial Software Evaluation (2 @ 2.5 pts. ea.)	5 points
• Instructor Contact (via e-mail)	

Part 2 - Hands-on Exercises (51 points possible)

Assignments 12 ~ 19 - Select <u>any</u> <u>four</u> of the six focus areas and complete two projects in each area.

• Learning with Word Processor Tools (2 @ 5 pts. ea.)	12 points
• Learning with Graphic Tools (2 @ 5 pts. ea.)	12 points
• Learning with Spreadsheet Tools (2 @ 5 pts. ea.)	12 points
• Learning with Internet Tools (2 @ 5 pts. ea.)	12 points
• Learning with Multimedia Tools (2 @ 5 pts. ea.)	12 points
• Learning with Video and Animation Tools (2 @ 5 pts. ea.)	12 points
• Post Course Evaluation	3 points
• Course Evaluation	
• Submit Request for Online Grading	

Grading Scale

Letter grades, should one be requested, will be on the following scale:

90% -100% = A 80% - 89% = B 79% or below = 'No Credit'

To earn a grade of "Credit" the quality of the work must be equal to, or better than, 80%, or the letter grade equivalent to a "B". Students striving for an "A" should demonstrate originality and show neatness and pride in their presentation. Students taking the course for credit are expected to adequately complete all the required assignments.

Evidence of Learning

Students will be evaluated on the ability to follow directions as described in the workbook to complete assignments. Written assignments should contain thoughtful, reflective responses applicable to their personal and/or professional experiences, which indicate they have put thought and effort in to their replies. Practical assignments should demonstrate basic competency in the skill area which demonstrate mastery of the tools and techniques.

Instructor/Student Contact

I will email you to verify receipt of your registration and let you know I am preparing your materials for shipping (usually the next day). You will also be asked to check in with me midway through the course as a required assignment. I can not stress this enough - never hesitate to contact me – that's why I'm here! When contacting me e-mail is preferred, but if you need to phone please do so after 10:00 AM PT, being mindful of time zone differences, as early morning calls wake the family. Thanks for your cooperation and understanding.

References

https://edtechbooks.org/k12handbook

www.education.ohio.gov/Topics/Learning-in-Ohio/Technology

www.nysed.gov/edtech

www.sps3000.net/etpdp/background/standards.htm

http://www.academicbenchmarks.com/search

Plagiarism and Academic Honesty

All people participating in the educational process at Fresno Pacific University are expected to pursue honesty and integrity in all aspects of their academic work. Academic dishonesty, including plagiarism, will be handled according to the procedures set forth in the Fresno Pacific University Catalog.

Grading Rubric

	Exemplary (A)	Passing (B)	No Credit
Use of tools and techniques (T&T)	Directions followed concisely. Correct use of T&T evident. Additional flourishes added.	Directions followed; use of proper T&T at times. Shied away from using the more complex T&T.	Directions not followed. Some steps omitted. Incorrect T&T used.
Effort and Perseverance	Project was continued until it was complete; effort set forth beyond that required; took pride in going beyond the basic requirements. Experimented freely and frequently.	With a bit more effort and dedication project could have improved; lacks finished quality; chose an easy project and did it indifferently.	Project not seen to completion; work inadequate. Seems hurried to “just get it done” and move to the next project.
Craftsmanship Consistency	Project completely and patiently done with great attention to detail; it was as good as hard work could make it. Techniques consistently and properly demonstrated throughout the project.	Average craftsmanship but not as good as possible with more care, time, effort and attention to de- tail. Quality varied from project to project.	Below average ef- fort. Lack of pride in work. Inconsistent use of tools / techniques from project to project.
Written Assignments	Depth of thought with thorough, candid and reflective replies. Relates personal/ professional experiences, when appropriate. Rare, if any, errors in spelling, punctuation, or grammar. Captivating, interesting and pleasurable to read.	Replies vague, generic, superficial. Strays from topic. Errors in grammar, spelling and punctuation a distraction. Word processing advised due to poor penmanship. Seems rushed. Not focused or engaged in topic.	Replies missing or incomplete. Did not follow directions. Gave only “yes” or “no” replies without offering further discussion to justify the response.

Continuing Education Student Learning Outcomes

CE 1. Demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others, and present information applicable to targeted use.
CE 2. Demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
CE 3. Reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and professional improvement.
CE 4. Apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to the professional setting.
CE 5. Reflect on values that inspire high standards of professional and ethical behavior as they pursue excellence in applying new learning to their chosen field.
CE 6. Identify information needed in order to fully understand a topic or task, organize that information, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information.

Fresno Pacific University Student Learning Outcomes

Oral Communication: Students will *exhibit* clear, engaging, and confident oral communication in both individual and group settings – and will critically *evaluate* content and delivery components.
Written Communication: Students will *demonstrate* proficient written communication by *articulating* a clear focus, *synthesizing* arguments, and utilizing standard formats in order to *inform* and *persuade* others.
Content Knowledge: Students will *demonstrate* comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
Reflection: Students will *reflect* on their personal and professional growth and *provide evidence* of how such reflection is utilized to manage personal and vocational improvement.
Critical Thinking: Students will *apply* critical thinking competencies by *generating* probing questions, *recognizing* underlying assumptions, *interpreting* and *evaluating* relevant information, and *applying* their understandings to new situations.
Moral Reasoning: Students will *identify* and *apply* moral reasoning and ethical decision-making skills, and *articulate* the norms and principles underlying a Christian world-view.
Service: Students will *demonstrate* service and reconciliation as a way of leadership.
Cultural and Global Perspective: Students will *identify* personal, cultural, and global perspectives and will employ these perspectives to *evaluate* complex systems.

Course Completion Checklist

Part 1 - Theory

- ☐ Assignment 1: Your Technology Background
- ☐ Assignment 2: Your Technology Profile
- ☐ Assignment 3: Student Learning Environment
- ☐ Assignment 4: Text 1.1 Technology Integration
- ☐ Assignment 5: Text 1.2 Connectivism
- ☐ Assignment 6: Text 1.3 Lifelong Learning
- ☐ Assignment 7 Text Chapter 3.2 Digital Equity
- ☐ Assignment 8: Text Chapter 3.4 Online Safety
- ☐ Assignment 9: Instructor Contact

Part 2 - Hands-on Exercises

- ☐ Assignment 10: Software Inventory
- ☐ Assignment 11: Software Evaluation (2)
- ☐ Assignment 12: Trial Software Evaluation (2)

Your choice of **any four** of the six presented:

Select 4 areas - 2 projects in each area for a total of 8

- ☐ Learning with Word Processor Tools (2)
- ☐ Learning with Graphic Tools (2)
- ☐ Learning with Spreadsheet Tools (2)
- ☐ Learning with Internet Tools (2)
- ☐ Learning with Multimedia / Presentation Tools (2)
- ☐ Learning with Video / Animation Tools (2)

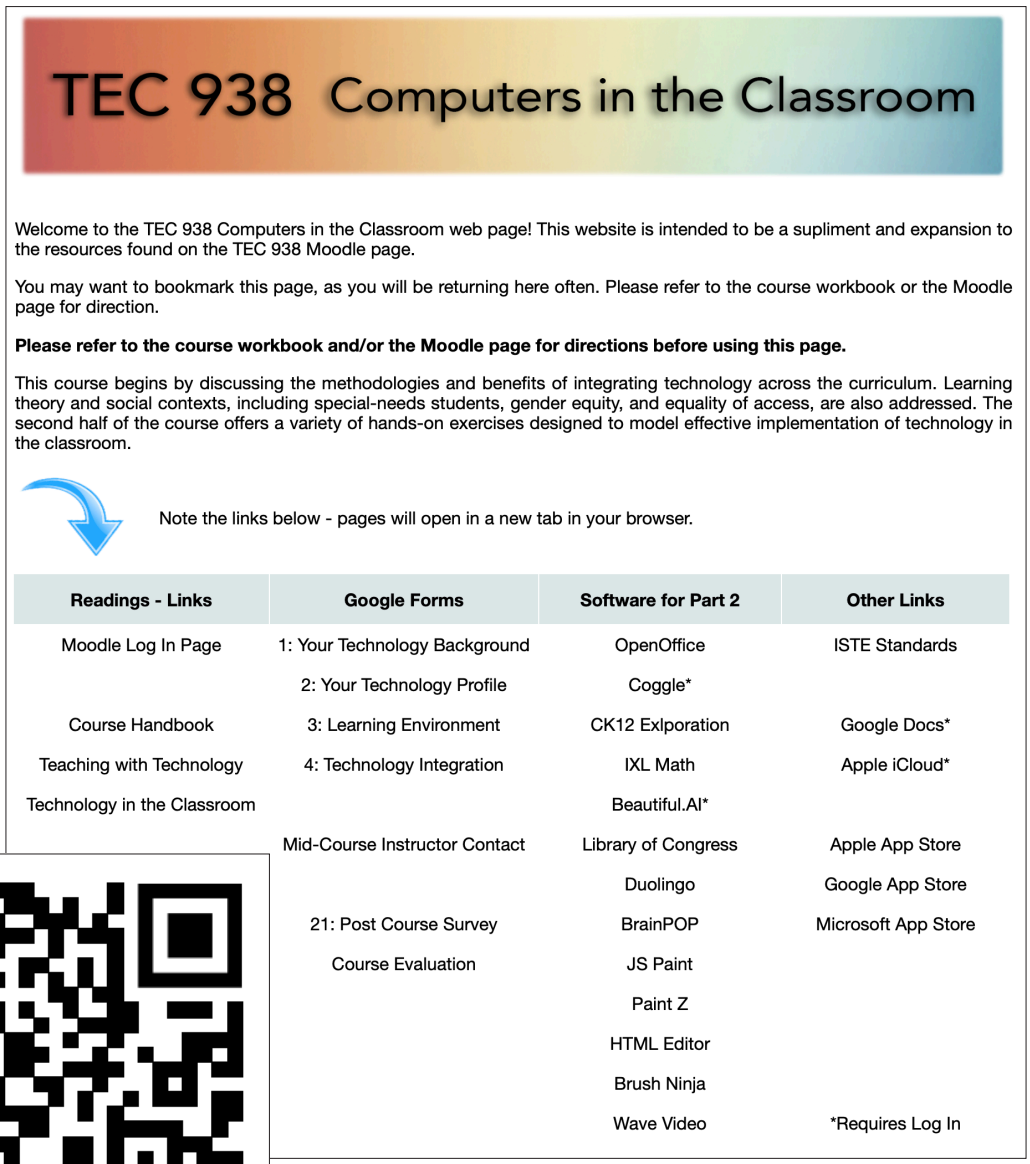
- ☐ Assignment 21: Post Course Evaluation
- ☐ Course Evaluation
- ☐ Submit Request for Online Grading

TEC 938 Website

An essential and integral part of this course is the companion website. Within the site are links to readings, learning resources, and various types of curricular software. Under the 'PDF Forms' column is a link to download all the forms you will find in this workbook. You can then fill out the forms and save them to return at the end of the course.

www.cicm.steveyoungfpu.net

Please note that no endorsement is intended by the inclusion of the articles, links, or sites, and are present only as an illustration of the scope and variety of education software available. Copyright is held by their respective publishers.



TEC 938 Computers in the Classroom

Welcome to the TEC 938 Computers in the Classroom web page! This website is intended to be a supliment and expansion to the resources found on the TEC 938 Moodle page.

You may want to bookmark this page, as you will be returning here often. Please refer to the course workbook or the Moodle page for direction.

Please refer to the course workbook and/or the Moodle page for directions before using this page.

This course begins by discussing the methodologies and benefits of integrating technology across the curriculum. Learning theory and social contexts, including special-needs students, gender equity, and equality of access, are also addressed. The second half of the course offers a variety of hands-on exercises designed to model effective implementation of technology in the classroom.

Note the links below - pages will open in a new tab in your browser.

Readings - Links	Google Forms	Software for Part 2	Other Links
Moodle Log In Page	1: Your Technology Background	OpenOffice	ISTE Standards
	2: Your Technology Profile	Coggle*	
Course Handbook	3: Learning Environment	CK12 Exlporation	Google Docs*
Teaching with Technology	4: Technology Integration	IXL Math	Apple iCloud*
Technology in the Classroom		Beautiful.AI*	
	Mid-Course Instructor Contact	Library of Congress	Apple App Store
		Duolingo	Google App Store
	21: Post Course Survey	BrainPOP	Microsoft App Store
	Course Evaluation	JS Paint	
		Paint Z	
		HTML Editor	
		Brush Ninja	
		Wave Video	*Requires Log In

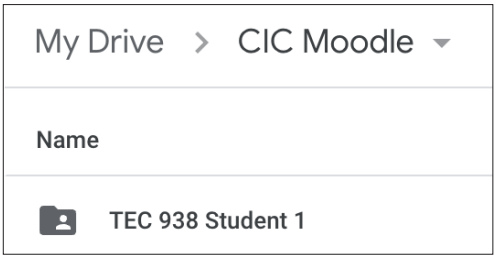
Submitting Your TEC 938 Coursework

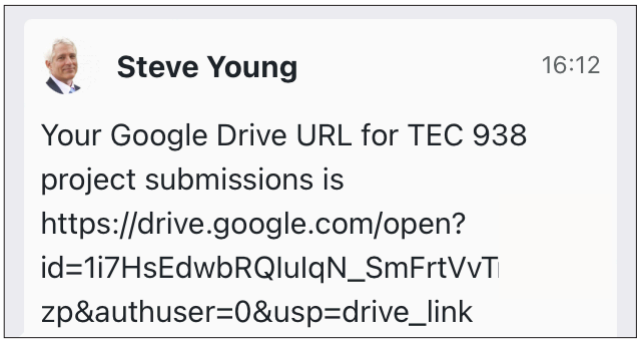
The twenty one projects which make up the course are submitted to the instructor using two different mechanisms. The early assignments use Google Forms, wherein your simple responses (tick boxes and short answers) are relayed to me. A copy of each completed form is automatically emailed to you, using the email address you supply with each Google Form.

Subsequent assignments (forms and student-created documents) are uploaded to me. In an effort to make submitting the following projects as easy as possible, I have set up individualized Google Drive folders for each of you. I have / will email you the URL to your personal TEC 938 Google Drive folder. I have / will also message your Moodle account with the URL.

Once you locate the relevant URL, copy and past it into a web browser (you may want to bookmark it). On the resulting web page, you can then drag course relevant documents (or multiple files / folders) to your portfolio. The instructor will also have access. Please name each document to give an indication of the assignment it is addressing.

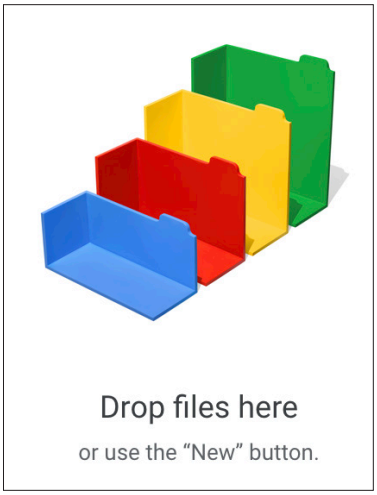
Note the Message icon in the upper right corner of your Moodle page





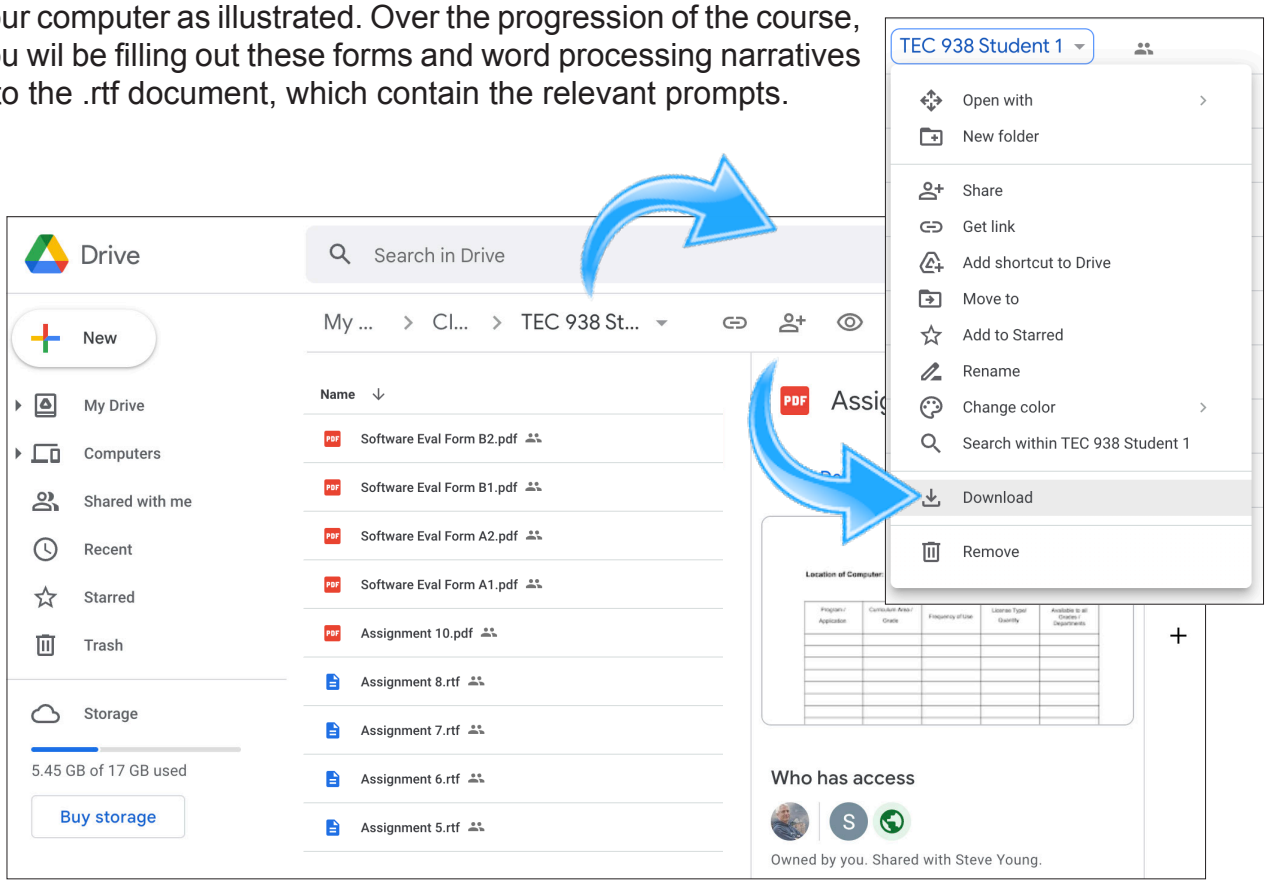
I will send you a message with your URL. Log into your Google account then access the link.

You can then upload your projects (one at a time or en masse) to your personalized folder.



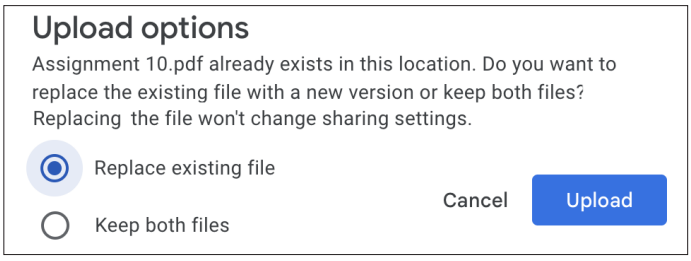
Submitting Your TEC 938 Coursework

If you are unfamaliar with using Google Drive, below is a representation of what you will see - there may be minor diffrences depending on what web browser you are using. As you can see, your folder already contains some files which you will be using. Download thes files to your computer as illustrated. Over the progression of the course, you wil be filling out these forms and word processing narratives into the .rtf document, which contain the relevant prompts.

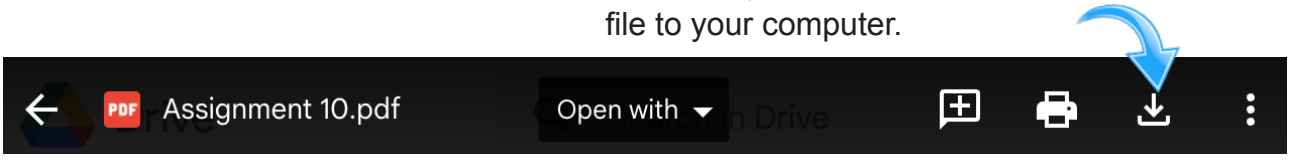


At your discretion, you will upload the completed documents back to your TEC 938 Google Drive folder, along with your finished Part 2 projects. These will include your self-produced word processing, graphics, etc. files.

When uploading documents, back to the Google Drive folder, may see the prompt shown here - either option is fine.



If you double-click on a document in your folder, you will see the document with the icon header shown below. In most case you can not alter the document, so use the download icon to save the file to your computer.



Introduction

After taking this course I would like for you to think of the computer as a tool. It should be a tool that allows you to create, analyze, store and retrieve information. It should be a tool allowing you to express ideas and persuade others.

I want you to be aware of how using (and not using) technology will effect students. I want you to become proficient at using computers to solve problems, to infuse technology into your curriculum and to integrate it into the academic lives of your students.

Listed below are the three primary objectives of this course:

Encourage the use of computers in the classroom by removing the mystery that surrounds the technology.

Many teachers resist using computers in their classrooms because they are intimidated by the technology. For this reason, an objective of Computers in the Classroom is to take away the mystery that often surrounds these machines by emphasizing their use as tools.

Apply the principles of educational theory to the use of computers in the classroom.

Another objective of this course is to help teachers at all levels of education, but especially K-12, to discern quality educational software among the plethora of packages available today. In pursuit of this objective, you will review educational theory and apply it to the use of computers in education.

Over thousands of years, philosophers and educators have expounded on various theories of learning. You will be asked to relate some of these theories to your professional life.

Children need teachers. There are those in the teaching profession who fear that computers in schools will bring about a reduction in the number of teachers in the workforce. The opposite is more likely to be true because computers promote individualized instruction.

Individuals have unique needs that are difficult to identify. Tomorrow's teachers, working closely with fewer students than ever, will be given the opportunity to help each of their students select from a rich variety of multimedia material to sew together a tailor-made learning experience.

Provide opportunities for hands-on computer experience

It is beyond the scope of this course to profile, in more than a superficial fashion, specific courseware for teaching and learning. Hands-on experience with computing is nonetheless important, and, to this end, this course offers many opportunities to work with productivity and curriculum software.

What is Technology Integration?

Technology integration is the incorporation of technology resources and technology-based practices into the daily routines, work, and management of schools. Technology resources are computers and specialized software, network based communication systems, and other equipment and infrastructure.

Practices include collaborative work and communication, Internet-based research, remote access to instrumentation, network-based transmission and retrieval of data, and other methods. This definition is not in itself sufficient to describe successful integration: it is important that integration be routine, seamless, and both efficient and effective in supporting school goals and purposes.

Integrating technology is what comes next after making the technology available and accessible. It is a goal-in-process, not an end state. The goal of perfect technology integration is inherently unreachable: technologies change and develop, students and teachers come and go - things change. It is the process by which people and their institutional setting adapt to the technology that matters most.

The process of technology integration is one of continuous change, learning, and (hopefully) improvement. Developing a culture that embraces technology is also important to its successful integration; for example, sending important messages by e-mail, or encouraging staff to use electronic calendars to schedule meetings, fosters a culture that accepts technology as “natural” to the business of everyday work.

We will begin with some key questions that address what users—teachers, students, administrators - bring to the application of technology: their own skills and knowledge. The next key questions focus on the incorporation of technology into instruction’s major components: curriculum standards, practices, and student assessment.

Obtaining measures for indicators often requires purpose-built survey questions or other forms of assessment. Technology integration is one domain that may well require special data collections.

Are teachers proficient in the use of technology in the teaching/learning environment?

The best indicator to measure proficiency is some form of performance measure based on clear and reasonable criteria. Two efforts are presented that address, respectively, the criteria to be employed and the measurement approach.

The first criteria was established by the International Society for Technology in Education (ISTE); the Standards for Basic Endorsement in Educational Computing and Technology Literacy.

These standards specify a desired performance profile for technology-literate teachers. Schools and districts can use these performance standards to measure teachers' skills with technology. The assessment could be, for example, through portfolio-based ratings of teachers for a selection of performance areas.

The second approach, cited below, comes from Fairfax County Public Schools (FCPS) of Virginia. They have determined eight teacher technology competencies, divided into two competency skill areas: operational (standards 1–4) and integration (standards 5–8).

Instructional personnel shall be able to:

Operational Standards

1. Demonstrate effective use of a computer system and utilize computer software.

2. Apply knowledge of terms associated with educational computing and technology.

3. Apply computer productivity tools for professional use.

4. Use electronic technologies to access and exchange information.

Instructional personnel shall be able to:

Integration Standards

5. Identify, locate, evaluate, and use appropriate instructional hardware and software to support the [Virginia] standards for learning and other instructional objectives.

6. Use educational technologies for data collection, information management, problem solving, decision making, communication, and presentation within the curriculum.

7. Plan and implement lessons and strategies that integrate technology to meet the diverse need of learners in a variety of educational settings.

8. Demonstrate knowledge of ethical and legal issues relating to the use of technology.

International Society for Technology in Education

The ISTE Standards, formerly known as the National Educational Technology Standards (NETS), are standards for the use of technology in teaching and learning (technology integration).They are published by the International Society for Technology in Education (ISTE), a nonprofit membership association for educators established in 1979 focused on educational technology. They include the ISTE Standards for Students, which list skills and attitudes expected of students. They also include the ISTE Standards for Educators, ISTE Standards for Administrators, ISTE Standards for Coaches and ISTE Standards for Computer Science Educators.

The ISTE Standards provide a framework for learning, teaching and leading that is amplified by technology. They provide a road map for educators worldwide as they navigate decisions about curriculum, instruction, professional learning and the transformation of pedagogy with technology.

For more about ISTE and the ISTE standards go to: ***www.iste.org/standards***

The seven ISTE educator standards are:

1. **Learner** - Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning.

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4. **Collaborator** - Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems.

5. **Designer** - Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability.

6. **Facilitator** - Educators facilitate learning with technology to support student achievement of the 2016 ISTE Standards for Students.

7. **Analyst** - Educators understand and use data to drive their instruction and support students in achieving their learning goals.

The seven ISTE student standards are:

1. **Empowered Learner** - Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.

2. **Digital Citizen** - Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.

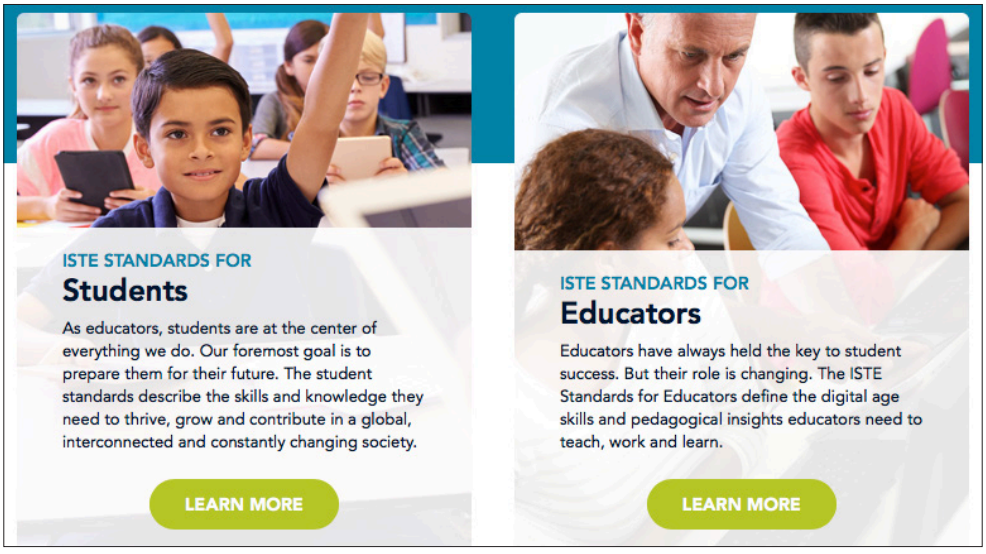
3. **Knowledge Constructor** - Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

4. **Innovative Designer** - Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

5. **Computational Thinker** - Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

6. **Creative Communicator** - Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

7. **Global Collaborator** - Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.



Stages of Adoption of Technology

It may be oversimplifying the case, but it is sometimes helpful to attach a label to yourself. Listed below are six stages of technology savvy, one of which probably applies to you.

Read over the stages and respond on the next page, as they pertain to both your personal and professional life.

Stage 1: Awareness

I am aware technology exists but haven't used it - perhaps even avoiding it.

Stage 2: Learning the process

I am currently trying to learn the basics. I am often frustrated using computers. I lack confidence when using computers.

Stage 3: Understanding and application of the process

I am beginning to understand the process of using technology and can think of specific tasks in which it might be useful.

Stage 4: Familiarity and confidence

I am gaining a sense of confidence in using the computer for specific tasks. I am starting to feel comfortable using the computer.

Stage 5: Adaptation to other contexts

I think about the computer as a tool to help me and am no longer concerned about it as technology. I can use it in many applications and as an instructional aid.

Stage 6: Creative application to new contexts

I can apply what I know about technology in the classroom. I am able to use it as an instructional tool and integrate it into the curriculum.

Found at: *https://digital.library.unt.edu/ark:/67531/metadc2663/m2/1/high_res_d/Dissertation.pdf*

From: Christensen, R. (1997). Effect of technology integration education on the attitudes of teachers and their students. Doctoral dissertation, Univ. of North Texas.

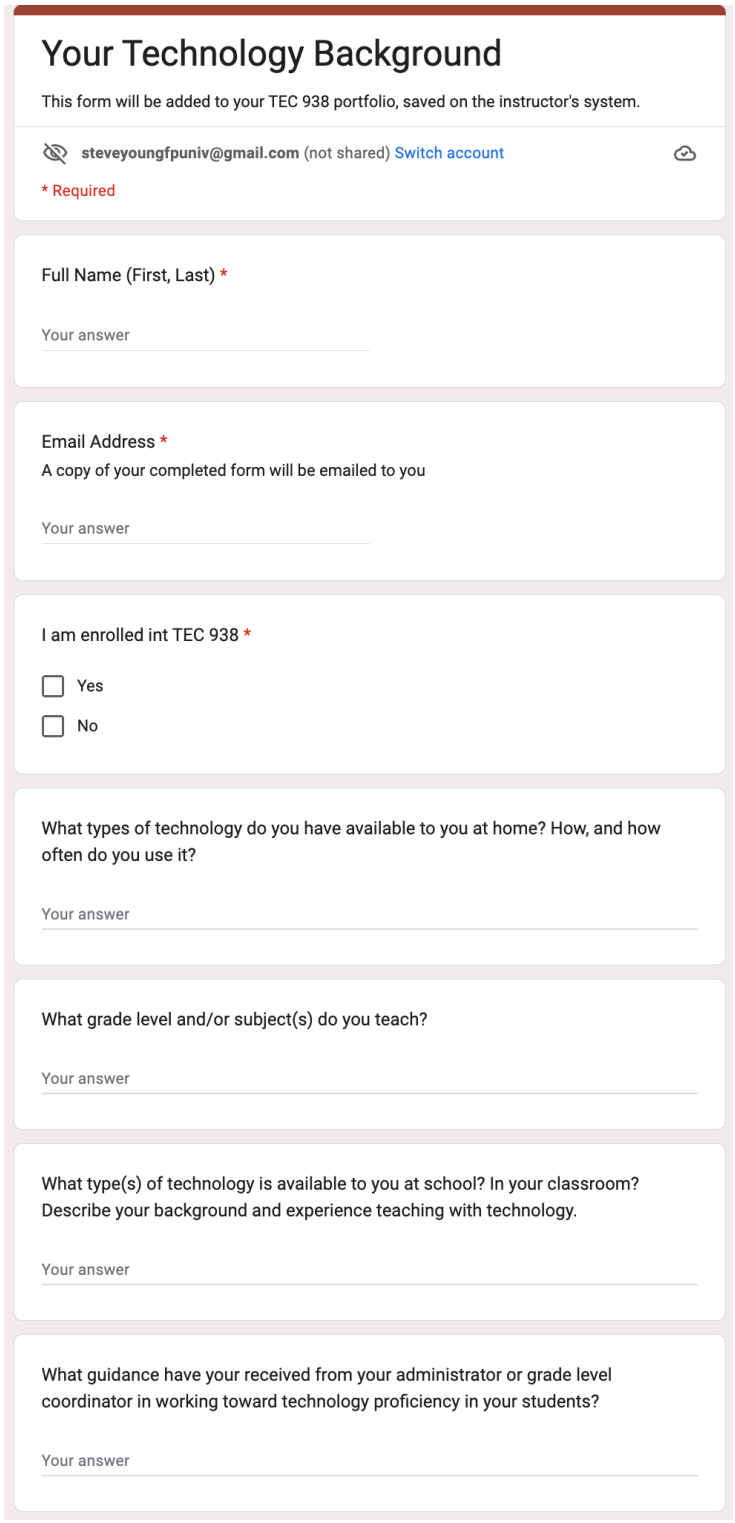
Based on Russell, A. L. (1995) Stages in learning new technology. Computers in Education 25(4), 173-178.

Assignment 1: Your Technology Background (via Google Forms)

Before you move on, you need to know where you are in terms of your technology 'I.Q.'. This profile will help you inventory your current technology background, knowledge and practices.

This is not intended to be a rating of your skill or ability as a teacher, but rather as a tool to help you think through the kinds of activities you use to help your students learn.

Use the link on the course website or the QR code below to access the form.



Your Technology Background

This form will be added to your TEC 938 portfolio, saved on the instructor's system.

steveyoungfpuniv@gmail.com (not shared) Switch account

* Required

Full Name (First, Last) *

Your answer

Email Address *

A copy of your completed form will be emailed to you

Your answer

I am enrolled int TEC 938 *

Yes

No

What types of technology do you have available to you at home? How, and how often do you use it?

Your answer

What grade level and/or subject(s) do you teach?

Your answer

What type(s) of technology is available to you at school? In your classroom? Describe your background and experience teaching with technology.

Your answer

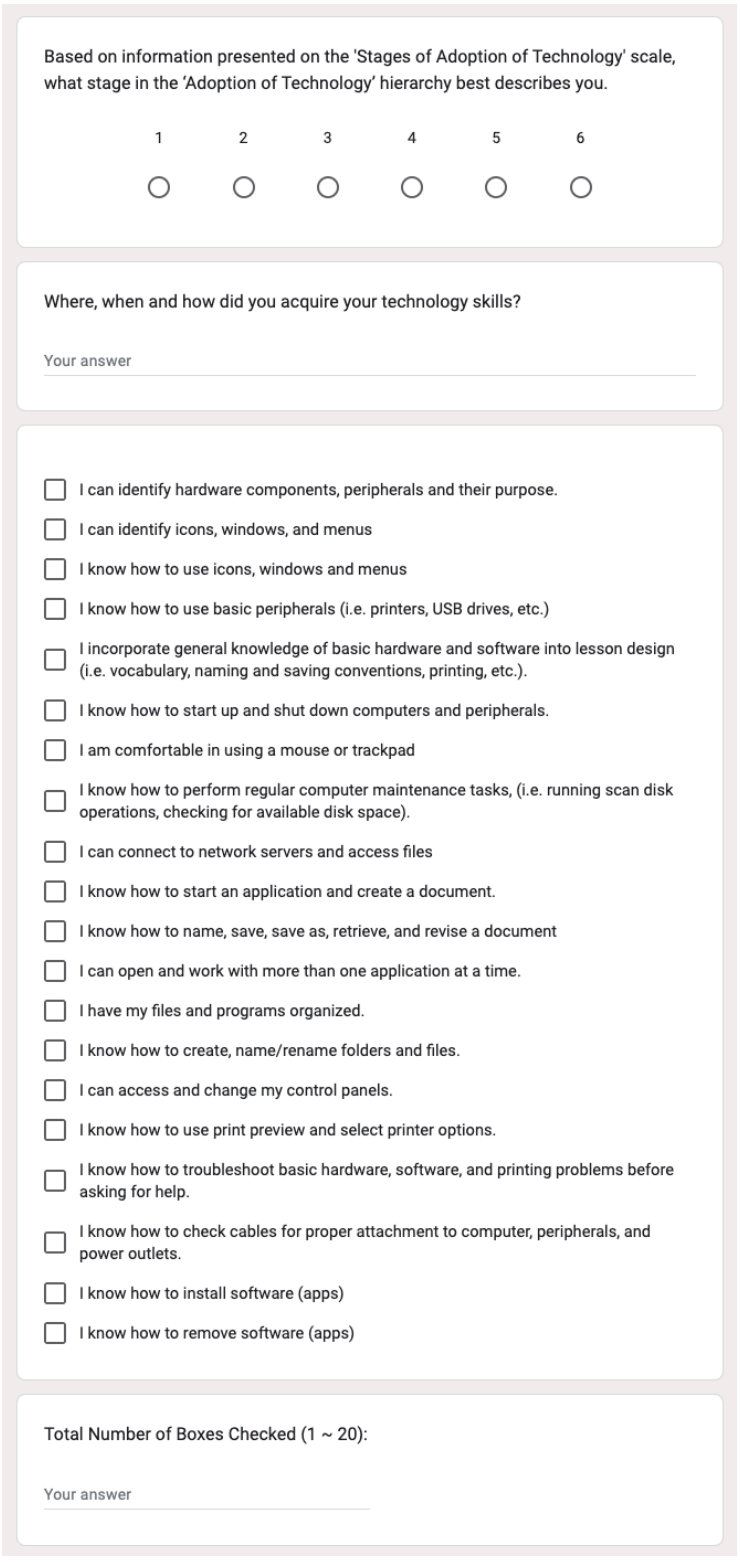
What guidance have your received from your administrator or grade level coordinator in working toward technology proficiency in your students?

Your answer

Assignment 2: Your Technology Profile (via Google Forms)

Listed on this form are a series of statements related to technology-savvy skills. Check all that you feel apply to your current knowledge and/or abilities. If unsure, do not select an item. Once you have completed the survey, total your score. Be honest. This is a personal assessment tool, so do not be intimidated. If you are unfamiliar with a function or skill, that is no cause for embarrassment.

Use the link on the course website or the QR code below to access the form.



Based on information presented on the 'Stages of Adoption of Technology' scale, what stage in the 'Adoption of Technology' hierarchy best describes you.

1 2 3 4 5 6

Where, when and how did you acquire your technology skills?

Your answer

- [ ] I can identify hardware components, peripherals and their purpose.
- [ ] I can identify icons, windows, and menus
- [ ] I know how to use icons, windows and menus
- [ ] I know how to use basic peripherals (i.e. printers, USB drives, etc.)
- [ ] I incorporate general knowledge of basic hardware and software into lesson design (i.e. vocabulary, naming and saving conventions, printing, etc.).
- [ ] I know how to start up and shut down computers and peripherals.
- [ ] I am comfortable in using a mouse or trackpad
- [ ] I know how to perform regular computer maintenance tasks, (i.e. running scan disk operations, checking for available disk space).
- [ ] I can connect to network servers and access files
- [ ] I know how to start an application and create a document.
- [ ] I know how to name, save, save as, retrieve, and revise a document
- [ ] I can open and work with more than one application at a time.
- [ ] I have my files and programs organized.
- [ ] I know how to create, name/rename folders and files.
- [ ] I can access and change my control panels.
- [ ] I know how to use print preview and select printer options.
- [ ] I know how to troubleshoot basic hardware, software, and printing problems before asking for help.
- [ ] I know how to check cables for proper attachment to computer, peripherals, and power outlets.
- [ ] I know how to install software (apps)
- [ ] I know how to remove software (apps)

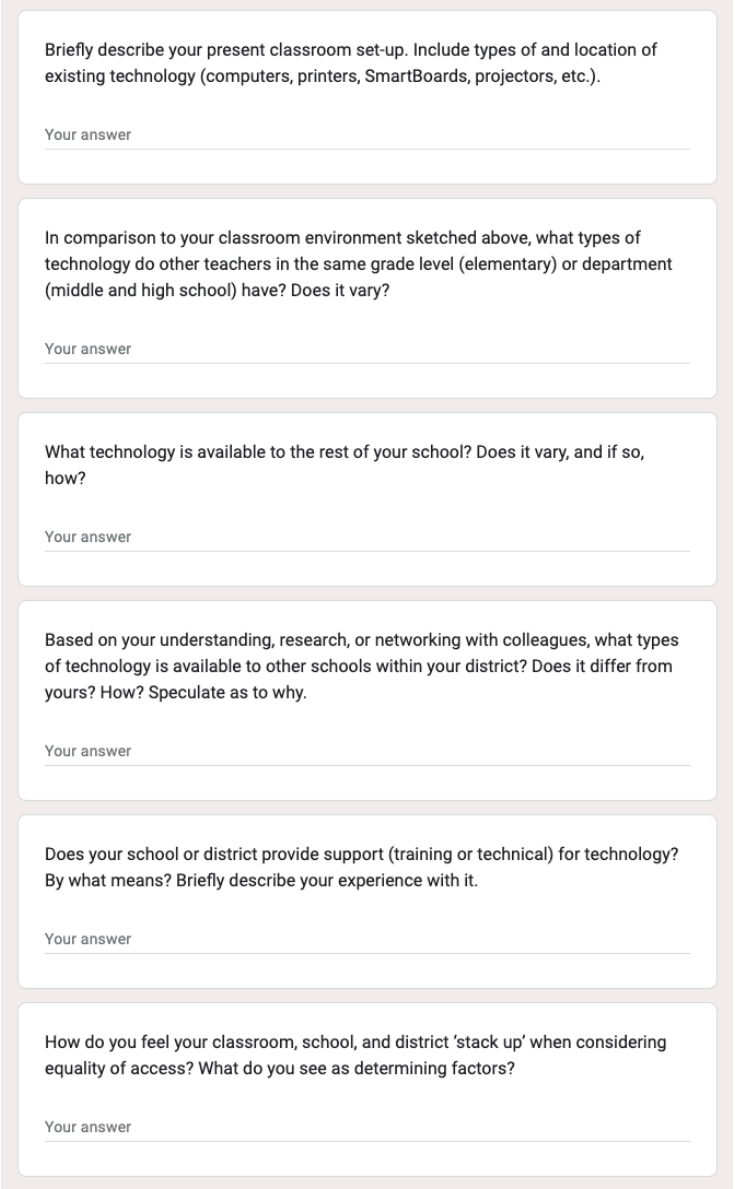
Total Number of Boxes Checked (1 ~ 20):

Your answer

Assignment 3: Learning Environment (via Google Form)

Where you teach is sometimes as impactful as what you teach. This form will help visualize what technology is available in your classroom as it relates to other classrooms and the district at large.

Use the link on the course website or the QR code below to access the form.



Briefly describe your present classroom set-up. Include types of and location of existing technology (computers, printers, SmartBoards, projectors, etc.).

Your answer

In comparison to your classroom environment sketched above, what types of technology do other teachers in the same grade level (elementary) or department (middle and high school) have? Does it vary?

Your answer

What technology is available to the rest of your school? Does it vary, and if so, how?

Your answer

Based on your understanding, research, or networking with colleagues, what types of technology is available to other schools within your district? Does it differ from yours? How? Speculate as to why.

Your answer

Does your school or district provide support (training or technical) for technology? By what means? Briefly describe your experience with it.

Your answer

How do you feel your classroom, school, and district 'stack up' when considering equality of access? What do you see as determining factors?

Your answer

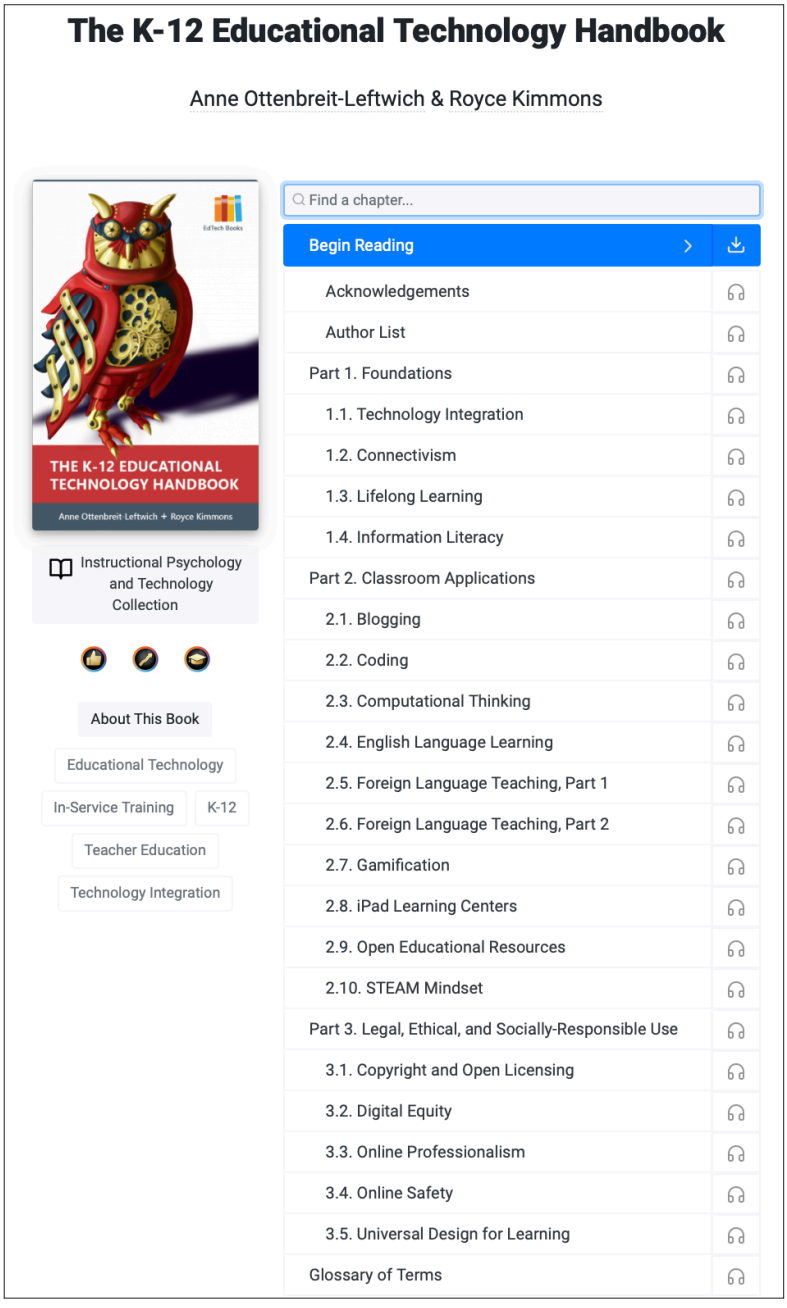
Introduction to the Handbook Assignments

For this section of the course, you are asked to respond to text-based questions. Your replies may be a combination of information drawn from the Handbook and/or your own personal perceptions, feelings and experiences.

It is my goal to encourage you to think critically and creatively - forecasting just how integrating computers into your existing curriculum will assist you and benefit your students.

https://edtechbooks.org/k12handbook

Note the headphone icons next to each section - an audio transcription is available by clicking on the relevant icon in a web browser.



Handbook Assignments

You will note that I have reordered the handbook sequence and left out a significant number of sections from the formal assignment to follow. I am a firm believer in not overloading students with information that may be tangential to the subject at hand. In structuring this course, I am attempting to keep a balance between theoretical and practical knowledge relevant to 'computers in the classroom'.

Below are the sections of the handbook which are addressed in the following five projects. As noted on the previous page, there are a total of nineteen sections to the handbook - I would encourage you to scan through the entire handbook - you could pick up some valuable ideas!

Part 1. Foundations

1.1. Technology Integration

1.2. Connectivism

1.3. Lifelong Learning

Part 3. Legal, Ethical, and Socially-Responsible Use

3.2. Digital Equity

Assignment 4: Technology Integration (via Google Forms)

Learning Objectives - Section 1.1 in the Handbook

- Develop a foundational understanding of learning theories driving current technology development and adoption for K-12
- Develop a foundational understanding of prominent technology integration models
- Consider your own values guiding effective technology integration in the classroom.

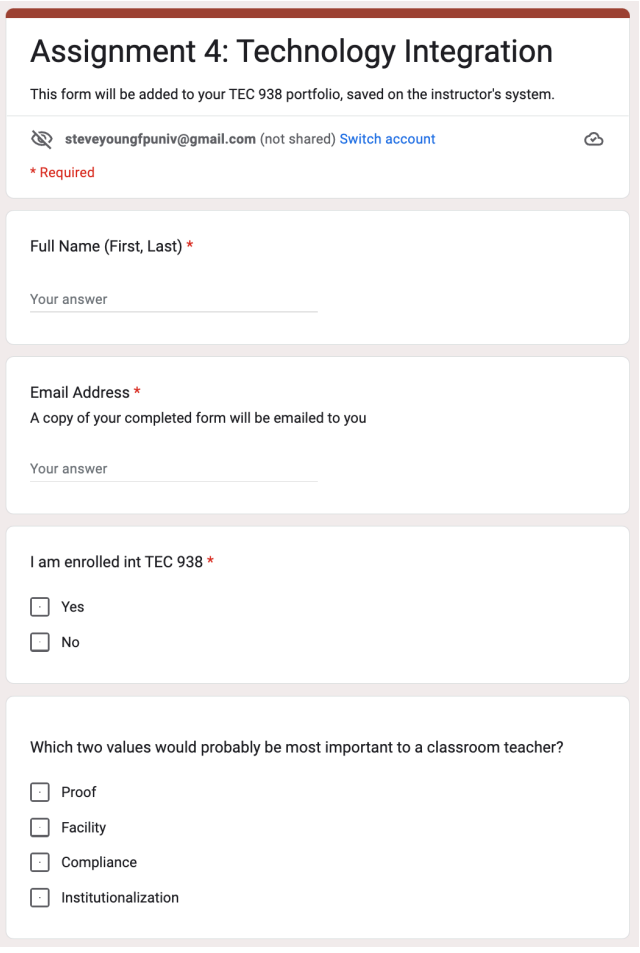
Technology Integration in education refers to the meaningful use of technology to achieve learning goals. Section 1.1 seeks to answer the question: what is effective technology integration? Though on the surface this may seem like a simple question, it is actually quite difficult to answer, because any answer will be based upon our beliefs and values, how we view learning, and how we view technology's role in the learning process.

To approach these questions, you will proceed in this chapter by:

(1) Revisiting some common learning theories and how they might influence our perspective of technology's role in learning,

(2) Exploring the beliefs and values that individuals and institutions might apply when evaluating technology use in the classroom, and

(3) Providing an overview of some common technology integration models that are used to help teachers better understand the process and goals of technology integration.



Assignment 5: Connectivism (Upload to Google Drive)

Learning Objectives - Section 1.2 in the Handbook

- Recognize assumptions and tensions in historical definitions of learning

- Consider the concept of Connectivism as an alternative theory describing learning that occurs via networks

Behaviorism, cognitivism, and constructivism are the three broad learning theories most often utilized in the creation of instructional environments. These theories, however, were developed in a time when learning was not impacted through technology. Over the last twenty years, technology has reorganized how we live, how we communicate, and how we learn. Learning needs and theories that describe learning principles and processes, should be reflective of underlying social environments. Vaill emphasizes that “learning must be a way of being - an ongoing set of attitudes and actions by individuals and groups that they employ to try to keep abreast of the surprising, novel, messy, obtrusive, recurring events...”

After reading Section 1.2, respond the the following prompts using your word processor of choice. A brief, thoughtful paragraph will suffice.

Save your appropriately named document for upload to your personalized TEC 938 Google Drive folder (see page 11 of this workbook).

1) After reviewing the ‘Some Significant Trends in Learning’ near the beginning of the section, write a narrative on your thoughts as they relate to two of the bullet points.

2) Describe two ways in which the computer might be used in a connectivism environment.

Note: A copy of this assignment is located in your TEC 938 Google Drive folder, which can be downloaded to your computer and opened in any word processor.

Assignment 6: Life Long Learning (Upload to Google Drive)

Learning Objectives - Section 1.3 in the Handbook

- Understand the need for lifelong learning
- Understand strategies for developing a personal learning environment (PLE) and personal learning network (PLN)
- Identify threats to lifelong learning present in modern technologies
- Choose a lifelong learning strategy that is appropriate

To be the best teacher possible, it is essential to be a lifelong learner. Lifelong learning implies that learning does not end when you leave a classroom or finish a degree. Rather, as you go through life it is essential for you to continually connect with other professionals to learn, to teach, and to share resources. Unwillingness to connect with others and to engage in the lifelong learning process leads to stagnation in your practice and will prevent you from being the best possible teacher for the children you serve.

After reading Section 1.3, respond to the following prompts using your word processor of choice. A brief, thoughtful paragraph will suffice.

Save your appropriately named document for upload to your personalized TEC 938 Google Drive folder (see page 11 of this workbook).

1) Which of the three lifelong learning scenarios is the most appealing to you; Social Learner, Seeker of Micro-Celebrity? Why

2) Which of the three lifelong learning scenarios is the most appealing to the majority of your students; Social Learner, Seeker of Micro-Celebrity? Why

Note: A copy of this assignment is located in your TEC 938 Google Drive folder, which can be downloaded to your computer and opened in any word processor.

Assignment 7: Digital Equity (Upload to Google Drive)

Learning Objectives - Section 3.2 in the Handbook

- Recognize barriers to device and internet access for students and their parents
- Understand digital equity strategies to improve learning and communication
- Identify resources to support technology integration in the classroom for all learners

After reading Section 3.2, respond to the following prompts using your word processor of choice. A brief, thoughtful paragraph will suffice.

Save your appropriately named document for upload to your personalized TEC 938 Google Drive folder (see page 11 of this workbook).

1) What data and experiences can I use to reevaluate whether students and parents have the resources and capacity to be successful as technology integration in schools increases?

2) What professional learning networks in my school, community, or online could support my efforts to learn about new and existing technologies and how to effectively integrate them into the classroom?

3) What does digital equity and inclusivity look like for my classroom? What evidence can I collect to show to what extent digital equity outcomes have been achieved?

Note: A copy of this assignment is located in your TEC 938 Google Drive folder, which can be downloaded to your computer and opened in any word processor.

Assignment 8: Online Safety (Upload to Google Drive)

Learning Objectives - Section 3.4 in the Handbook

- Understand common threats to personal security online (e.g., malware, hacking, phishing) and how to recognize and counteract them;
- Understand legal and ethical requirements placed upon teachers to keep students and their information safe and secure (e.g., privacy, inappropriate content, cyberbullying, child pornography);
- Recognize strategies for making a classroom safe and secure for students' online activities.

After reading Section 3.4, respond to the following prompts using your word processor of choice. A brief, thoughtful paragraph will suffice.

1) What protocols have you, your school, your district put in place to ensure the online safety of your students?

2) Do your students / parents sign an acceptable use policy? If so, do you know its contents? Are your students / parents aware of its content and meaning?

3) Have you (or your fellow teachers) had to deal with cyberbullying against your students? What training or procedures are in place to deal with this at your school?

Note: A copy of this assignment is located in your TEC 938 Google Drive folder, which can be downloaded to your computer and opened in any word processor.

Assignment 9: Instructor Contact (via Your Email)

At this point in the course I would like to hear from you. A brief email would be great - just to let me know how things are progressing or if any questions or concerns have come to mind. I look forward to hearing from you and as always, thanks!

Address your email to me at: SteveYoungFPUniv@aol.com

The email link ('Mid-Course Survey') can be found on the course website.

Assignment 10: Software Inventory (Upload to Google Drive)

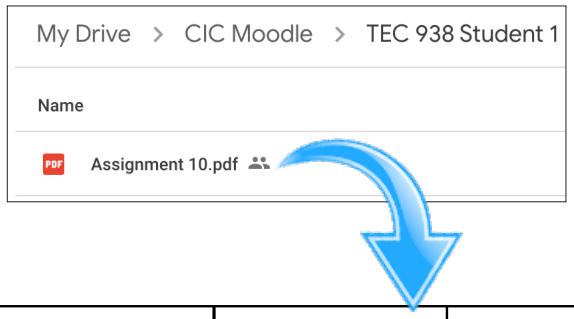
In assignment 3, you inventoried computer hardware available to you and your students. In this section and the next, the effectiveness of software will be considered. There is an interactive PDF of this form accessible from your TEC 938 Google Drive.

The first step is knowing what programs are available to your students and how appropriate they are in terms of grade level, ease of use, curricular benefit, etc..

Survey your classroom computers (or the one you are using to complete this course) and:

1) Locate, list and define what you feel are the five most beneficial curricular software programs available on your computer. Feel free to list more if you wish, but list a minimum of five. Once you have finished the form, simply leave it in the TEC 938 Google Drive folder. The instructor can view it prior to grading. Depending on how your computer is set up, you may need to download the form (labeled 'Assignment 10') from Google Drive to your computer, fill out the form and then drag the completed from back to your Google Drive TEC 938 folder.

Use the interactive PDF of the form in your TEC 938 Google Drive folder.



EXAMPLE:

Program / Application	Curriculum Area / Grade	Frequency of Use	License Type/ Quantity	Available to all Grades / Departments
Reader Rabbit	Lang Arts	Daily	District License	☑
MS Word	All	As Needed - Daily	District License	☑
Sticky Bear Math	Math	Daily	10 Licenses	☐
Kidspiration	Lang Arts	Quartly	10 Licenses	☐
MS Paint	Art	Art Lessons	Included in OS	☑
Excel	Math	Quaterly	District License	☑

Assignment 11: Software Evaluation (Upload to Google Drive)

Just as important as knowing what software is available is knowing the quality and appropriateness of your software. A good teacher always knows their resources: pre-reading Handbooks, watching videos presented in class, preparing lecture notes and lesson plans.

These resources are usually under your direct and continuous observation. Many times, student interaction with software occurs without that supervision - thus it is even more important you know what the software intends to do, instructionally speaking, and how well it does it.

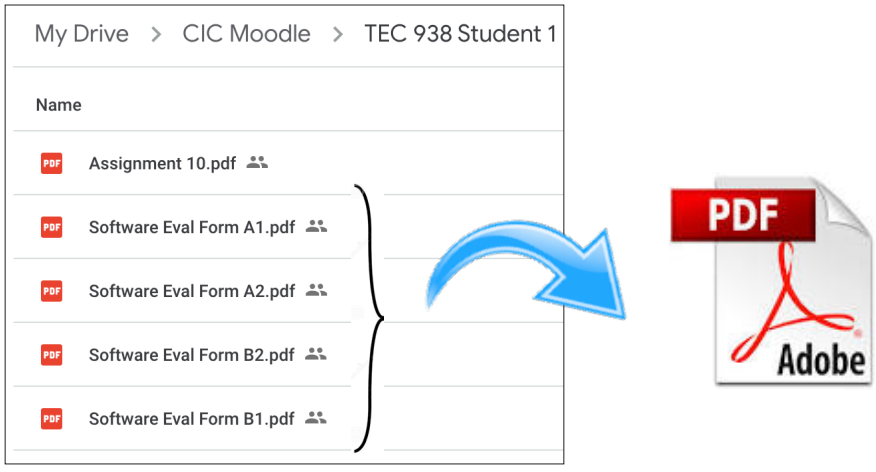
You should also be aware of the interface for a given piece of software. Which buttons do you push? How does one progress through a lesson? Is feedback given to the student? How long does it take to move through a guided lesson?

The best way to evaluate software is to use some form of grading rubric to guide your observations and to record your findings. Thus, for the purpose of this assignment you will be evaluating two pieces of curricular software.

Keep in mind that some web-based software would certainly qualify for this assignment. Sites such as starfall.com and brainpop.com contain interactive content, transforming them from an 'informational' website into the 'curricular software' category.

In your Google Drive TEC 938 folder, there are two software evaluation forms, labled 'Form A and Form B. There are two copies of each form. Using your choice of form, **evaluate two pieces of curricular software** your students already use. If you use form A, complete both evaluations using that form - A1 and A2; same for form B. Both forms are previewed on the next page.

Depending on how your computer is set up, you may need to download the form from Google Drive to your computer, fill out the form and then drag the completed from back to your Google Drive TEC 938 folder.



K-12 Software and Online Subscription Evaluation Form

Reviewer: _____ Moderator:_____ Date:_____

Title of software or online subscription:		URL:
Type of software: ☐ CONTENT ☐ STUDENT PRODUCTIVITY	☐SIMULATION ☐TEACHER PRODUCTIVITY	☐ASSESSMENT OTHER _____
Correlation:		
Target grade level(s):	Target subject area(s):	
What are the best attributes of the software?		
Briefly describe how you would use it.		

Select the column for the type of software or online subscription that you are reviewing (content/simulation, productivity, assessment, technical) and rate the listed elements using the attached rubric. (Choose one column and rate only the elements listed in that column.)

Content/Simulation	Rating	Productivity	Rating	Assessment	Rating	Technical	Rating
Instructional Content	0	Curriculum Connection	0	Curriculum Connection	0	Technology Effectiveness	0
Curriculum Connection	0	Age/Grade Level	0	Age/Grade Level	0		
Teaching/Learning Approach	0	Perspective	0	Assessment	0		
Age/Grade Level	0	Technical Aspects	0	Perspective	0		
Assessment	0	Flexibility	0	Technical Aspects	0		
Perspective	0	Technology Effectiveness	0	Technology Effectiveness	0		
Technical Aspects	0						
Flexibility	0						
Technology Effectiveness	0						
TOTAL SCORE	0	**TOTAL SCORE**	0	**TOTAL SCORE**	0	**TOTAL SCORE**	0

Recommend for Purchase: Yes ☐ No ☐

Computer Software Evaluation Form

Title: Evaluator's Name:

Date: Subject Area: Grade Level:

1. Program Requirements: (Memory, Operating System, CPU):
2. Additional hardware or software required:
3. Publisher: Publisher web site:
4. Vendor Name: Vendor Phone:
5. Vendor Address: Vendor Web site:
6. Price of Program (Individual price, site license or network price?)
7. Is a network demo available? Yes ☐ No ☐
8. What funds will be used to purchase the program?
9. Manuals and Support:
   - A. User's Manual is available/included. Yes ☐ No ☐
   - B. User's Manual is easy to understand. Yes ☐ No ☐
   - C. User's Help is accessible within program. Yes ☐ No ☐
   - D. Technical support is available online. Yes ☐ No ☐
   - E. Technical support by phone is available. Yes ☐ No ☐
   - F. Yearly support or maintenance fee is required. Yes ☐ No ☐ If yes, how much per year?
10. Describe the program's objectives related to district curriculum, state & national standards:
11. Describe how this software would improve your ability to complete specific job responsibilities and/or increase student learning:

	1=Strongly Disagree 5=Strongly Agree
12. Software supports existing curriculum.	#
13. Software adequately meets its objectives.	#
14. Software would make my job more effective.	#
15. Software is usable without reference manual or user help.	#
16. User can easily navigate between program screens.	#
17. Program allows user to correct errors.	#
18. Instructions are available on-screen and clearly written.	#
19. Graphics, media elements, & content are clear and appealing.	#

	1=Strongly Disagree 5=Strongly Agree
20. Incorrect use of keys/commands does not cause program to abort.	#
21. Software is age-appropriate in content & language.	#
22. Menus and other features make the program user friendly.	#
23. Bug free; program runs properly.	#
24. Software performs management tasks satisfactorily.	#
25. Program will be easily integrated into classroom curriculum.	#
26. Program uses real-life problems and/or authentic scenarios.	#
27. Program requires students to use higher-level critical thinking.	#
28. Tools for student assessment are provided and adequate.	#

29. Program is appropriate for: (Check all that apply.)
   - A. Small group use around 1 computer ☐ C. Use in computer lab on each machine ☐
   - B. Individual student on computer ☐ D. Use with 1 computer & lg. display for classroom ☐
30. Use of this software would require which level of computer skill?
   - Basic ☐ Intermediate ☐ Advanced ☐

Your recommendation - Please check one.

- ☐ This would be a valuable software purchase. I recommend we adopt it.
- ☐ This is beneficial software, but I have some serious reservations. (Please describe problems & indicate if you want to look at other programs like this.)
- ☐ This software will not produce the results desired and should not be adopted.

Comments:

Assignment 12: New Software Evaluation (Upload to Google Drive)

Learning is discovering! In addition to the software that is already on your computer(s), the next few pages list a variety of software which may be new to you. Links for the relevant websites are on the TEC 938 website.

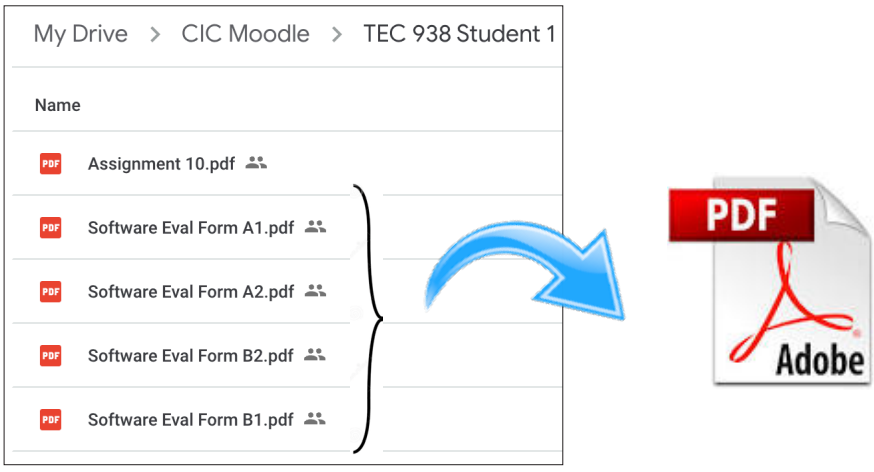
Your task is to explore new software for two purposes: to increase your awareness of the vast library of curricular software available, and to become familiar with evaluating software. Your choice of software is by no means limited to what is listed here. There are innumerable sites for curricular software, both online and downloadable (usually for Macintosh and Windows computers) available - any of which will meet the requirements of this assignment.

You will find descriptions of each piece of software over the next few pages. You may wish to check out the publisher's website listed at the bottom of each page, as many sites offer numerous free demos to download or use online. A Google search will find other downloadable demos of educational software. If you choose, you can also review web-based programs; a few are listed in this section of the workbook. Microsoft, Apple and Google all have web stores which cater to the education market. You can find links to these stores on the course website.

Choose two software titles which your students are currently **NOT** using, but you deem to be of potential benefit. Using the relevant Google Form, **review the two titles.**

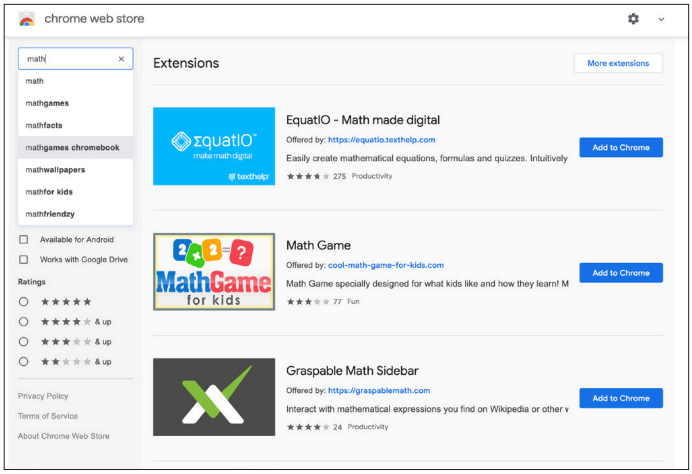
From your Google Drive TEC 938 folder, chose the evaluation from which you did not use for Assignment 11; if you used form A for Assignment 11, use form B for this assignment.

Depending on how your computer is set up, you may need to download the form (labeled 'Assignment 10') from Google Drive to your computer, fill out the form and then drag the completed from back to your Google Drive TEC 938 folder.

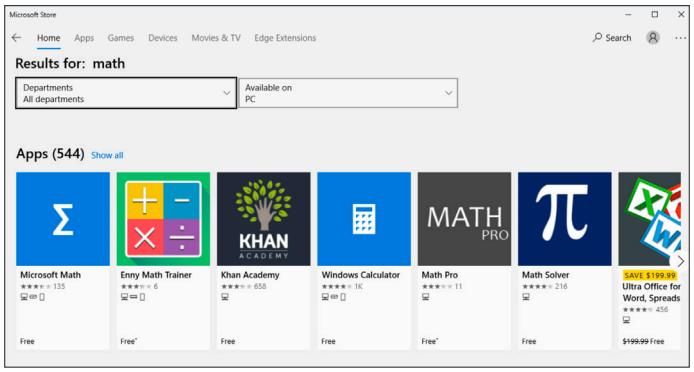


Apple App Store

Microsoft Store



Chrome Web Store



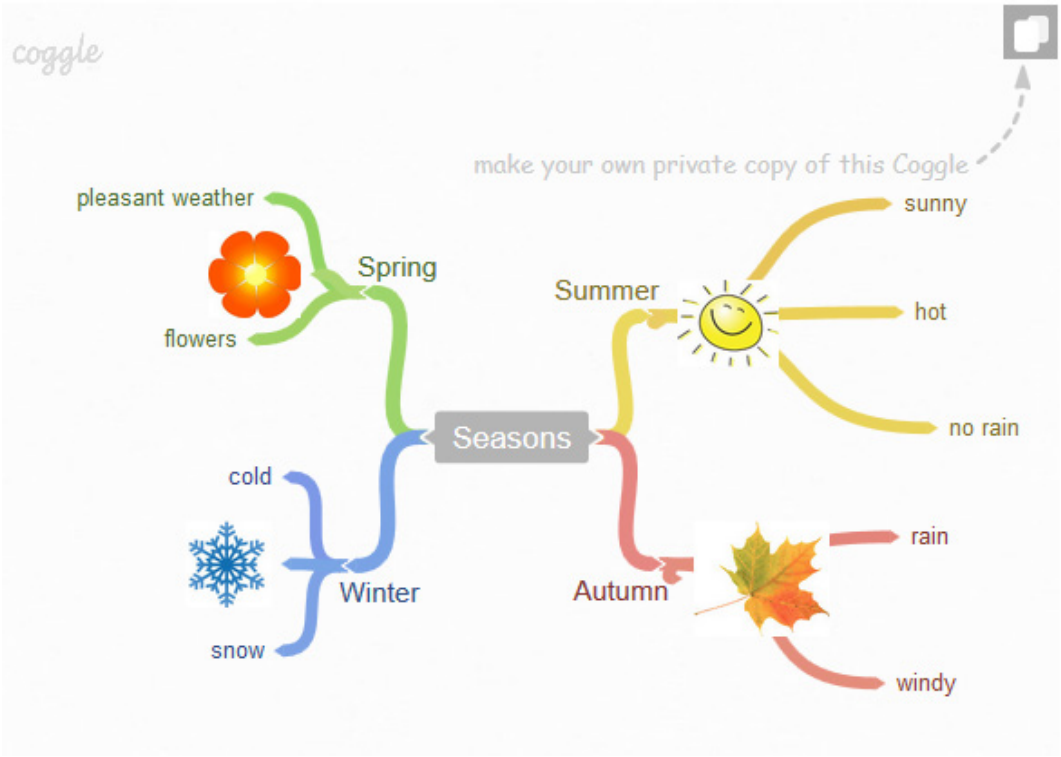
Publisher's description: Coggle gives you a clear way to share and understand complex information. It's a collaborative mapping tool that simplifies complex things — it's a shared workspace to help your team work more effectively together. [requires login]

What is Mind Mapping?

A mind map is a simple way to visually map out a topic in an organic way. It starts with one or more central topics then repeatedly branches out, breaking down information into a hierarchy of its components. The items in the mindmap can be positioned spatially and formatted for size and color to help with memory and recall. Mind mapping goes by lots of different names: concept mapping, spider diagrams, brainstorm diagrams and others, but you can use Coggle for all of them!

Who are Mind Maps for?

Mindmaps are useful for anyone to plan, take notes, visualize information, brainstorm, solve problems, study, and share information (to name just a few). There's really no limit to their uses! Everyone who values visual thinking, in business, education, or just in their personal life can find mind maps useful to organise information.

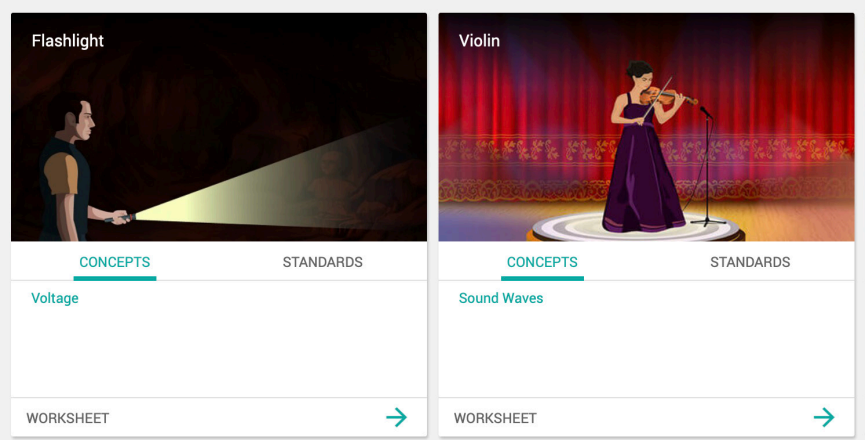


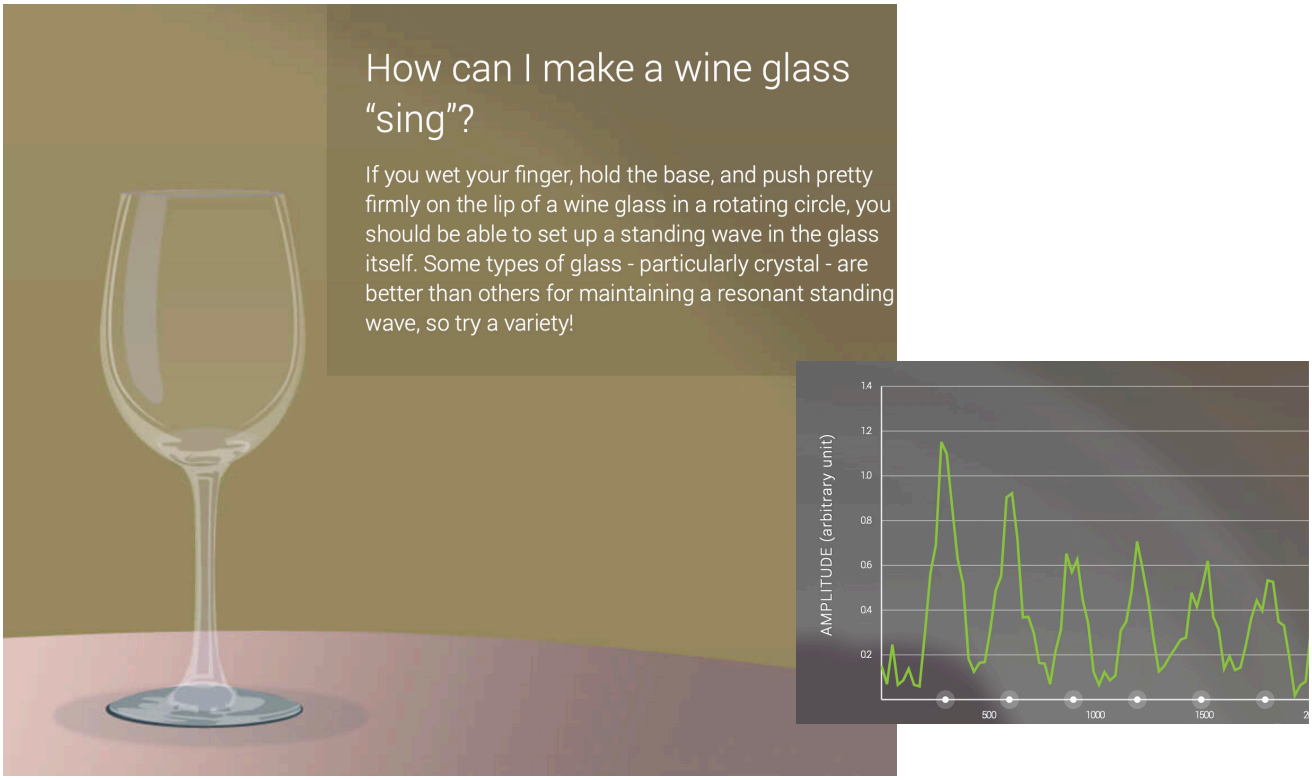
Publisher's web site: *www.coggle.it* *A link is provided on the course website*

CK-12 Exploration Series

Physics Simulations Chemistry Simulations

Publisher's description: The CK-12 Foundation was founded with the mission to enable everyone to learn in his or her own way. We pair high quality content with the latest technologies. We equip students, teachers, and parents with everything they need. The site offers a wide range of interactive science simulations and teacher guides. [requires login]



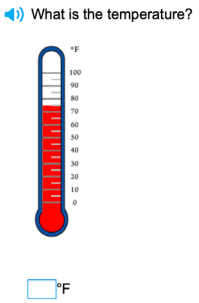


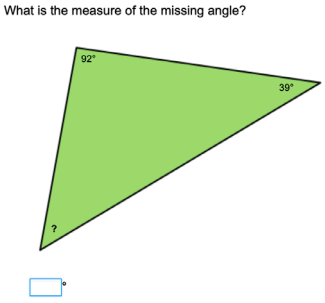
Publisher's web site: *https://interactives.ck12.org/simulations/physics.html*

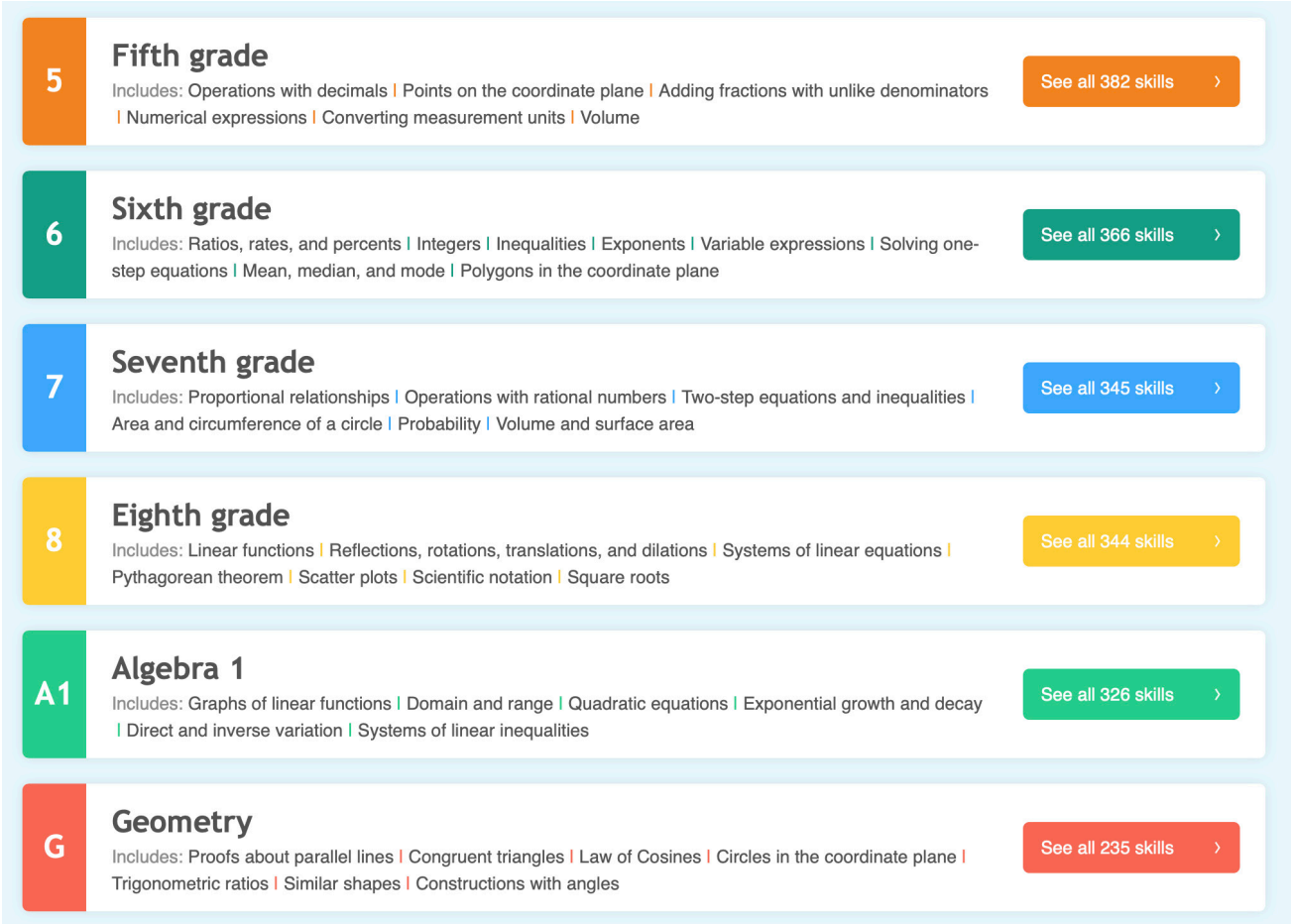
A link is provided on the course website

IXL Math

Publisher's description: IXL (from "I excel") is a math & language arts practice website for K-12. It has unlimited questions on thousands of math topics and a comprehensive reporting system. For each grade (currently pre-K—calculus) there are over a hundred of skills listed, organized into categories. These are quite comprehensive and there is both breadth and depth present in the quantity and quality of topics. The skills to be practiced not only cover calculations but are quite varied.





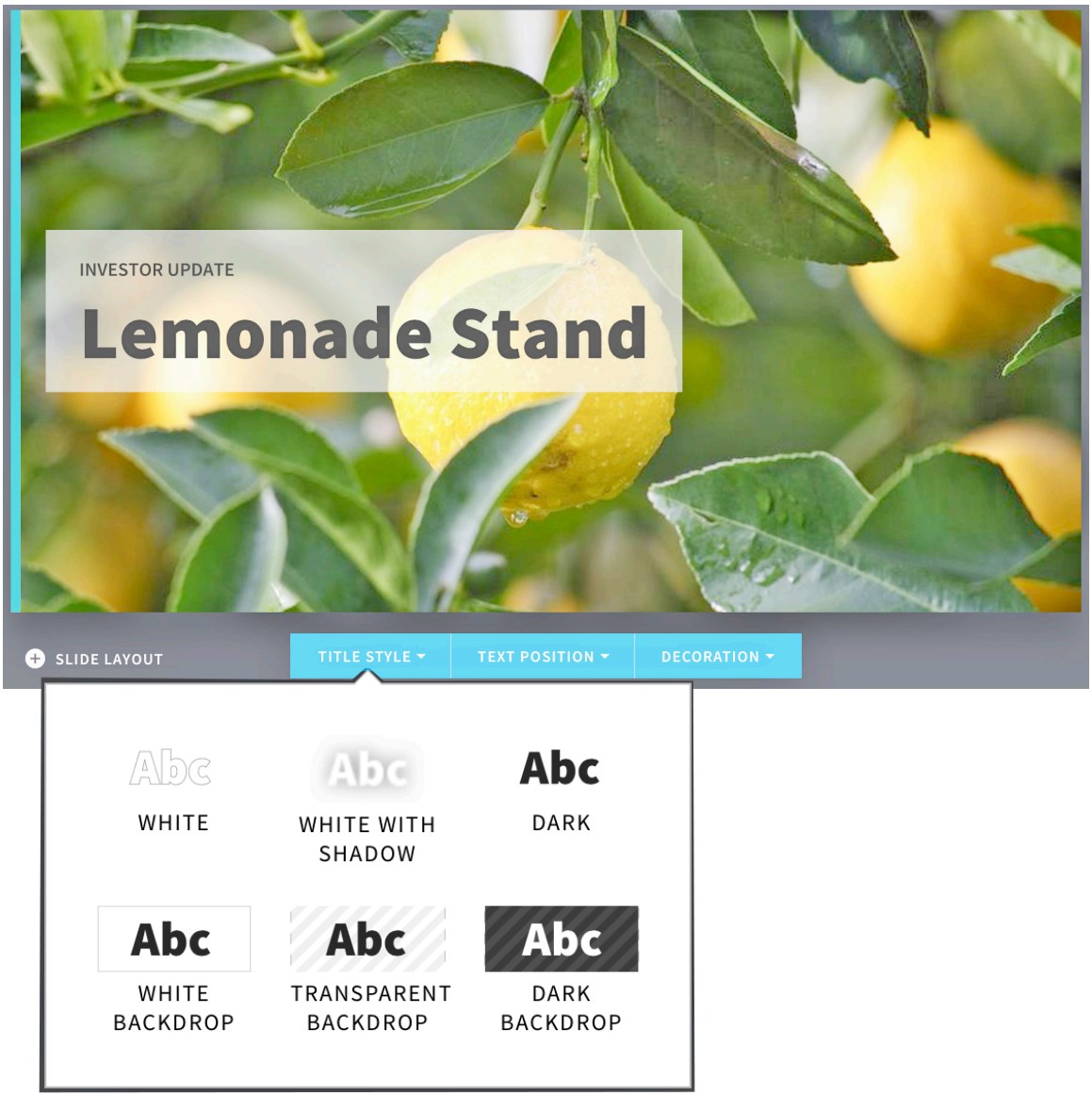


Publisher's web site: *https://www.ixl.com/math/* *A link is provided on the course website*

BEAUTIFUL.AI

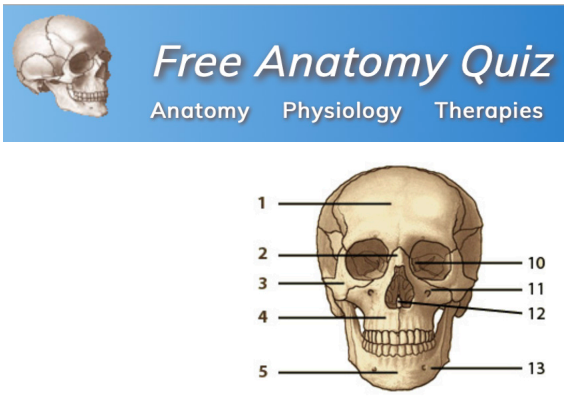
Publisher's description: Beautiful.AI is an online presentation program. You can instantly visualize your ideas with more than 50 ready-to-use, customizable smart templates. Just think of an idea, choose a template, and get to work. Finally, presentation software with smarts!
Fast and intuitive. [requires login]

Similar programs include Microsoft Powerpoint, Google Slides and Apple Keynote.



Publisher's web site: *https://about.beautiful.ai* *A link is provided on the course website*

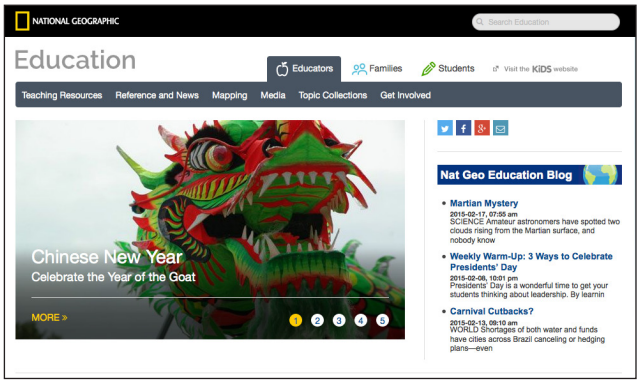
There are many, many more web based software which offer new and innovative educational experiences. New technologies (both in hardware and software) have advanced the user experience with animation and on-screen manipulations of objects, as well as artificial intelligence and even student tracking capabilities.



https://www.free-anatomy-quiz.com/skeletalsystem.html

www.brainpop.com

www.duolingo.com



www.nationalgeographic.com

www.starfall.com

Learning about the Computer

There are a multitude of resources available to assist you in learning computer basics. Those listed below are meant as merely a starting point, not an endorsement.

Web sites:

www.atomiclearning.com/search

Atomic Learning provides software training using a unique, just-in-time approach. It contains a library of thousands of short tutorials on dozens of applications. A subscription to Atomic Learning provides access to all of the tutorials and other valuable educational resources. Prices vary - they offer subscriptions and individual courses. Free tutorials are also available.

www.gcflearnfree.org/computerbasics

All learning opportunities at GCFLearnFree.org—tutorials, classes, articles, videos modules, and interactive lessons—are completely free to all users, and no user should ever have to create an account with an outside agency or pay a fee to use our site.

All of the content on the GCFLearnFree.org website is copyright protected. We recognize that learners may want to print or download website content for a variety of educational reasons. These uses are permissible as long as the content is used for noncommercial purposes (and for no personal financial benefit), that content is not altered or transformed in any way, that GCFLearnFree.org® is acknowledged as the owner and copyright holder of the content, and that a link is provided to our website.

Books:

Introduction to Computers 2022 Edition by Darrell Hajek and Cesar Herrera

Absolute Beginner's Guide to Computer Basics, by Michael Miller

The Complete Idiot's Guide to Computer Basics, by Joe Kraynak

Is This Thing On?: A Late Bloomer's Computer Handbook, by Abby Stokes

How Computers Work, by Ron White

Part 2: Hands-on Exercises - Introduction

Now that a foundation for teaching and learning with technology has been established, we will next address the 'when' and 'how'. The text is conveniently divided in two sections, as is this course.

In Part 2 we get down to the 'nuts and bolts' of integrating computers, hardware and software into your classroom through exercises that stimulate you to think of ways to effectively use the technology at hand to engage and motivate learners. Part 2 of the text discusses seven separate areas of classroom applications as learning tools: graphics, word processing, spreadsheets, databases, multimedia, the Internet, and Internet Applications.

In the second half of this course you will **choose any four of the six areas of interest** presented in Chapters 6 ~ 12 of Part 2 of the text. Once you have selected your four areas of interest, you are asked to **complete two projects within each of the four sections you choose.**

Focus on your interests so that the exercises are beneficial, practical and meaningful to both you and your students. My goal is to stimulate you to think of innovative, creative and engaging ways to integrate technology, computers and software into your classroom / curriculum.

The examples provided in this workbook are just that - examples. Please do not simply recreate examples from the workbook or text. **I expect you to return projects that are your *original* work, created specifically for the purpose of fulfilling the requirements of this course.** Submitting a photocopy of a newsletter announcing a 2022 Christmas Party, or printing off a page from your school's website announcing 2023's Senior Class Trip simply won't suffice (it pains me to have to mention this but in the past I've encountered students doing exactly that - sad, but true).

When creating projects and lessons for Part 2 you are encouraged to address current or future curricular needs (i.e. a Powerpoint presentation for an upcoming event, or class lesson). Tailoring the project to 'fit' with what you are hoping to implement, or planning on doing, will prove useful both in terms of your knowledge of the subject matter, but also the creation of a resource for use in your classroom.

At the end of this workbook is a Course Evaluation form. Please take a moment to complete it as, on an ongoing basis I am constantly revising my courses based on your excellent feedback and suggestions; let me know where and how I can improve the course for future students. Thanks!

Note: *On your TEC 938 course website you will find a link to the OpenOffice.org web site for both Macintosh and Windows. If needed, you can use it to complete projects for the graphics, word processing and spreadsheet areas of interest.*

Using Basic Productivity Software

For part 2 of the course we turn to hands-on assignments.

Each section contains information on the practical classroom use of each type of learning tool, how to use one or more specific programs within each type, integration concepts, and lesson plan ideas.

To fulfill the requirements of Part 2 of the course you are asked to **choose any four areas of interest listed.** Select whichever areas of interest best suit your interests, skill level and applicability to your teaching situation.

Within each of the four areas of interest you select, there are *three* projects. **Complete two projects from the four choices** (when completed, you will have a **total of 8 projects** for Part 2 - two each for the four Handbook chapters you selected).

In this portion of the workbook I have also included additional help and reference pages for each type of program. These pages include summary information along with at-a-glance guides to the menus, palettes and tools for certain programs.

Software Needed for Part 2

To complete some assignments you will need to use various pieces of software. Below is a chart listing the type of software to be used for Part 2 of the course.

You are welcome use other software to complete assignments (i.e. tuxpaint for Graphics, or Notepad for Word Processing). If you are already using and are comfortable with a particular program such as Keynote, you are encouraged to use it.

Some of the software you already have; others can be accessed through the course website or found online.

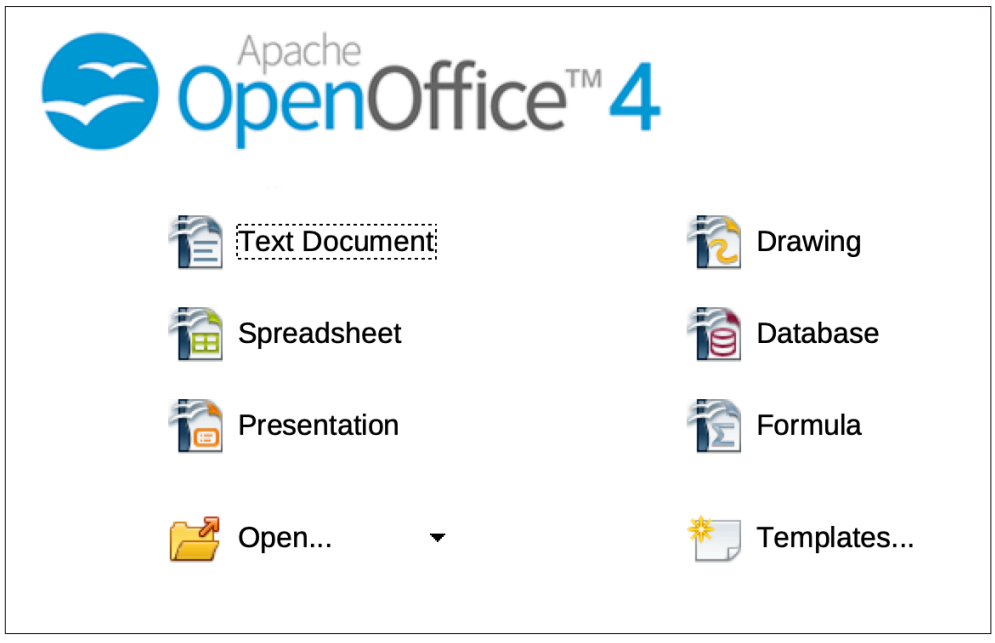
Word Processing	Microsoft Word	OpenOffice Writer	Google Docs	Apple Pages
Graphics Tools	Microsoft Paint	OpenOffice Draw	Google Drawings	sumopaint.com
Spreadsheet	Microsoft Exel	OpenOffice Calc	Google Sheets	Apple Numbers
Internet Tools	Microsoft Word -export to HTML	html5-editor.net		
Multimedia	Microsoft Powerpoint	OpenOffice Impress	Google Slides	Apple Keynote
Video and Animation	Apple iMovie	brush.ninja	wave.video	

Using the OpenOffice Software

If you haven't a productivity suite (i.e. Microsoft Office) the course website contains a link to OpenOffice.org, a freeware Microsoft Office alternative. The program contains a word processor and spreadsheet, presentation, draw, and database components. It is functionally quite similar to MS Office, and can read and write MS Office documents.

To download OpenOffice on a Macintosh or Windows computer:

1. Open the TEC 938 course web page..
2. Click the OpenOffice link (www.openoffice.org)
3. Click the 'I want to download Apache OpenOffice link.
4. Click the 'Download Full Installation' link for your computer (Mac or Windows).



Learning with Word Processor Tools

This chapter presents a look at the word processor as a productivity tool to facilitate written communication. Reference is made to studies that have shown that the use of word processing by students increased their motivation to write, and expands their vocabulary.

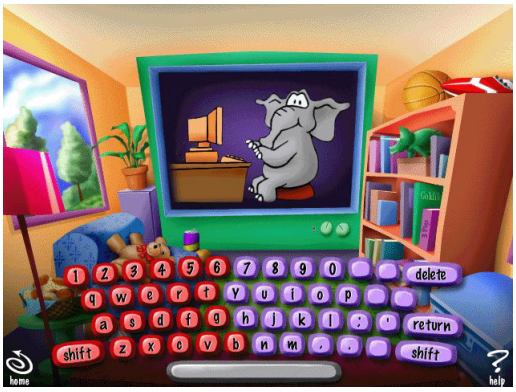
Typing Skills

Typing is important; everyone should be able to type at least 40 words a minute. This sort of speed allows the user to flow with a train of thought as it comes. It doesn't mean that 40 wpm will be attained in typing class, but if students are given a solid foundation in keyboarding, their speed will develop as they keyboard their way through life. Does this mean that 8 year olds should type at 40 wpm? No. They should be provided with the basics of keyboarding and then learn to type faster than they can write (typically 11 wpm). This will allow them to have an efficient way to enter their thoughts and writings into a dynamic electronic format. Editing and revising are necessary for improving writing and are much easier to do in a word processor than on paper.

Proper typing also promotes English language skill. Too often students who use smartphones to communicate think "wherRU" is a grammatically correct sentence. Typing on a real keyboard, using real words is an essential skill.

Sunburst Type to Learn

Sunburst Type to Learn Jr.



Consider how impossibly tedious it is for an adult to read a book by reading each letter of a word. Typing by visually searching for individual letters and hitting the keys with one or two fingers is just as tedious, wasting hours on the computer each day.

Touch typing is typing fast using all fingers (and one thumb) without looking down at the keyboard. It is a subconscious skill that is learned by being taught correct skills and practice. Touch typing is much faster than typing with a few fingers; and because you type words and phrases subconsciously you can type nearly as fast as you think.

Touch typing is the real-time transfer of human ideas to the computer. It is thought processing, which is much more than word processing. It is also far more accurate as you know the keyboard well. No time is wasted correcting errors.

Listed on this page and the next are several (there are of course many others) typing programs, for both primary and secondary classrooms. A major component to any school's technology use plan is a keyboarding "30WPM by grade 6" element.

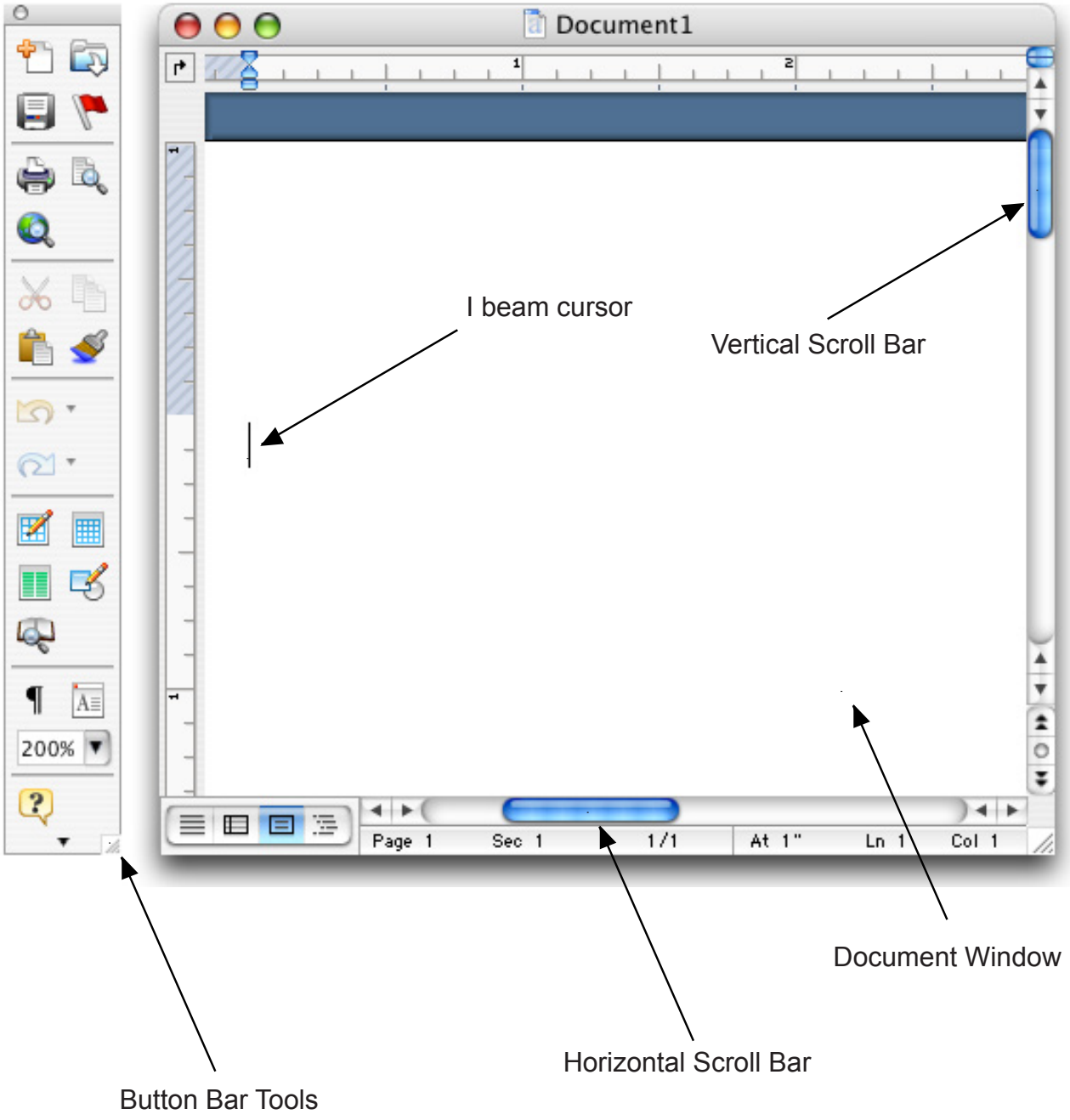
Sticky Bear Typing

21st Century Typing

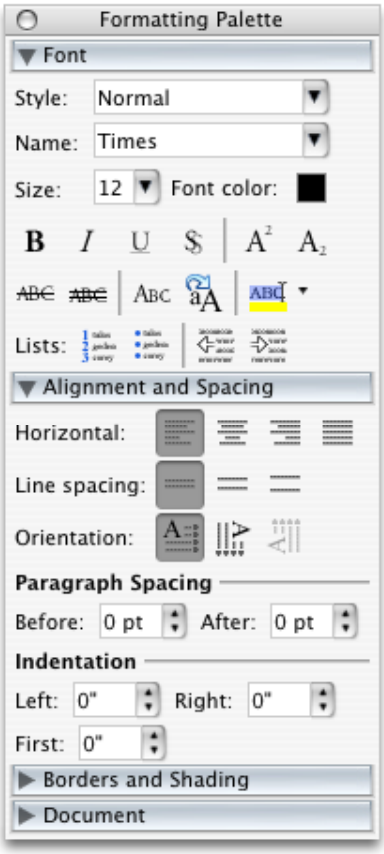
speedtypingonline.com

The Learning Company
Mavis Beacon Typing

Parts of a Word Processing Document



Word Processing Tools - MS Word



New blank document

Open

Save

Flag for later follow up

Print

Print preview

Web page preview

Cut

Copy

Paste

Format Painter

Undo

Redo

Tables and borders

Insert table

Columns

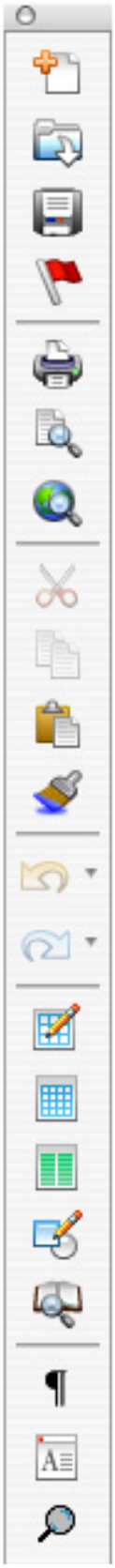
Drawing

Dictionary

Show / Hide invisibles

Formatting palette

Find



Word Processing Projects (Choose Two)

1) Using a lesson plan format with which you are most comfortable (and makes this exercise useful, beneficial, and meaningful), design a lesson plan for elementary, middle school, or high school students in which they use a word processing program to report on a subject you will be studying. Try to incorporate the use of several tools found in word processing programs. Younger students may only use simple tools (such as font size and type) whereas older students should be required to use more sophisticated tools (for example, numbering or bulleting, indents, footnotes). If you do not have access to students (i.e. you are taking this class over summer break) and can not present the lesson, omit the evaluation portion of the lesson plan.

2) Using a word processing program at your disposal, create a letter to be sent home to a parent. It could be to announce an open house or advise of a student's achievement. Use as many word processor functions as your comfort and skill levels allow. Print and return a copy.

3) Create a simple (grade appropriate) 3-5 question quiz for your classroom. It may be multiple choice, 'True or False', or 'Essay'. The content and format is your choice. Print and return a copy of your quiz.

Name: _____

Animal Quiz

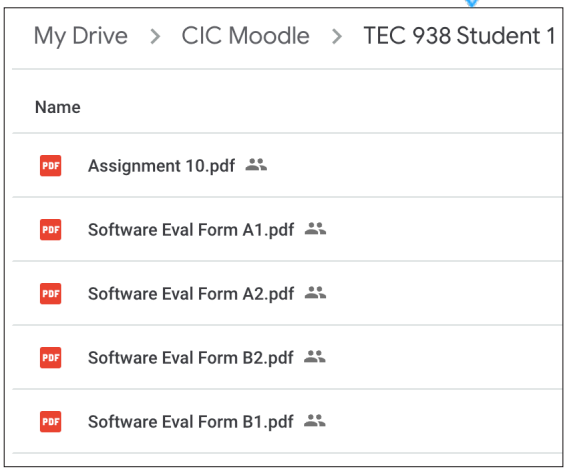
Circle the best answer

1. A frog is what type of animal?
   - Fish
   - Bird
   - Amphibian

2. Which one is a mammal?
   - Whale
   - Shark
   - Sea Horse

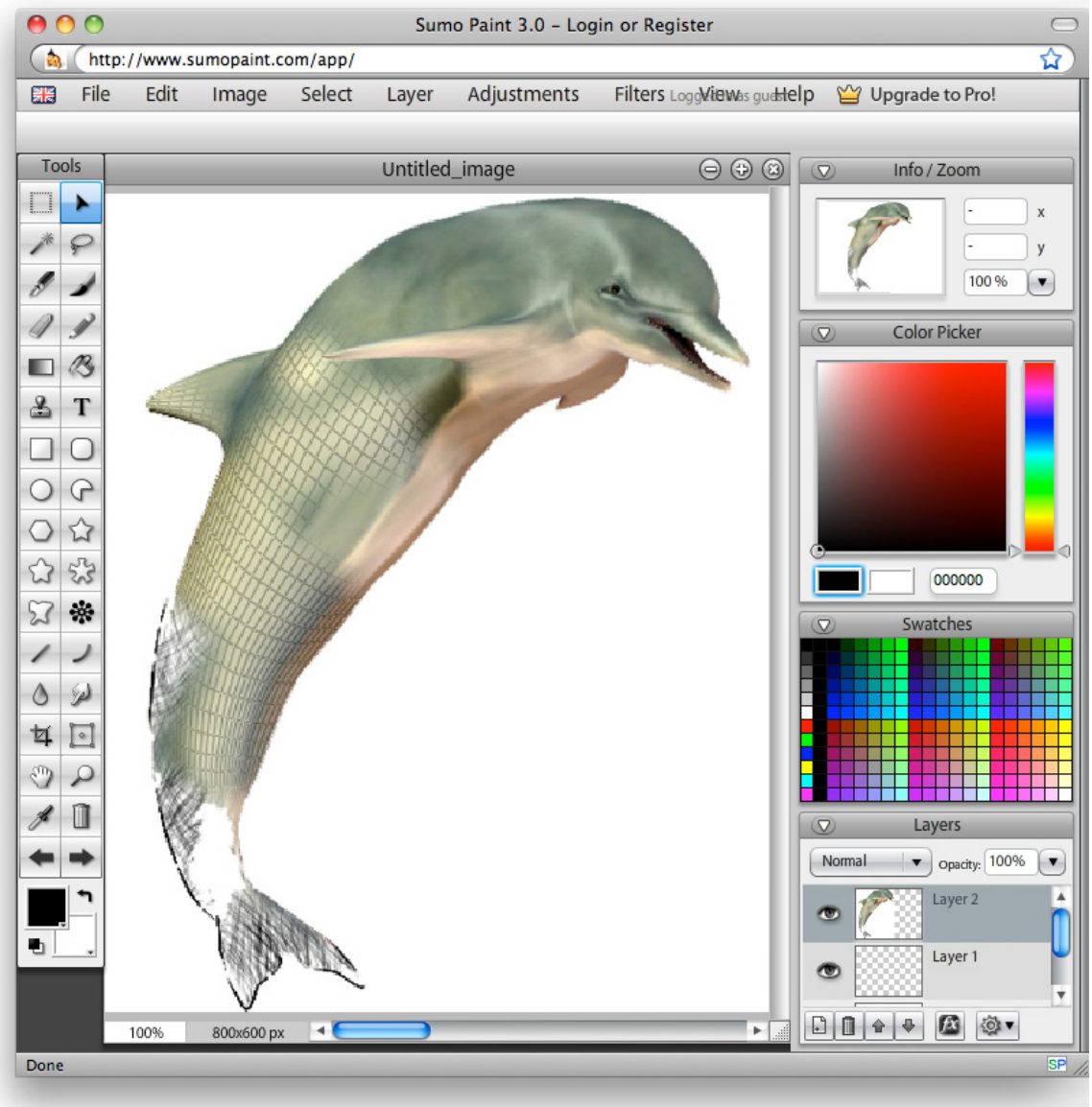
3. A bird is usually covered in
   - Fur
   - Feathers
   - Scales

After you have word-processed and saved each project to your computer, drag the completed document into your Google Drive TEC 938 folder. Make sure you name the document with an appropriate name, such as 'WP1' or 'Word Processing part 1'.



Learning with Graphic Tools

Computer graphics combines the speed, versatility and computational power of the computer with astounding results. It is used in such diverse areas as displaying the results of engineering and scientific visualization, creating movie special effects and just plain fun. The art of creating pictures with a computer, like other art forms of the 20th century (color photography and television), has evolved from an expensive oddity to a legitimate form of expression available to everyone. Today's kindergartners have tools available to them that, 30 years ago, could only be afforded by multi-million dollar corporations.



When to PAINT instead of draw:

Painting is better than drawing when:

- You want to use the painting tools, such as the paintbrush and spray can, in addition to the drawing tools
- You want to apply special effects to your images, such as blending colors, tinting, and lightening or darkening
- You want to insert a picture or graphic and use the painting tools and features to alter it
- You want to create freehand images that are more complex than simple shapes/lines
- You do not need to easily reselect and manipulate items (everything added to a painting becomes part of the overall canvas and is not as easily selected and manipulated as in a drawing)
- You do not need to rearrange layers of items (you cannot move layered items forward or backward in a painting, but you can in a drawing)

When to DRAW instead of paint:

Drawing is better than painting when:

- You want to rearrange layers of objects (in a painting, you cannot move layered items forward or backward)
- You want to draw shapes, lines and curves, and simple freehand objects (painting is better for more complex freehand images)
- You want to easily reselect and manipulate objects (everything added to a painting becomes part of the overall canvas and is not as easily selected and manipulated)
- You do not need to use painting-only features, such as blending colors, tinting, lightening, or darkening (you can add a painting frame to a drawing document if you need these effects in a portion of your document)

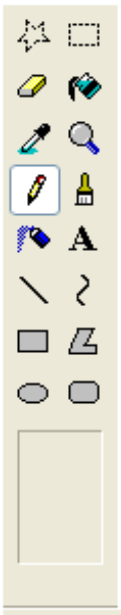
Paint Programs

Here are the tool palettes of several of the many hundred available paint programs. If you look closely, you will see some tools common to all the programs.

www.sumopaint.com

Adobe Photoshop

KidPix

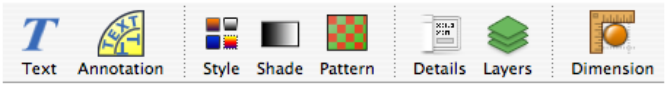


Windows Paint

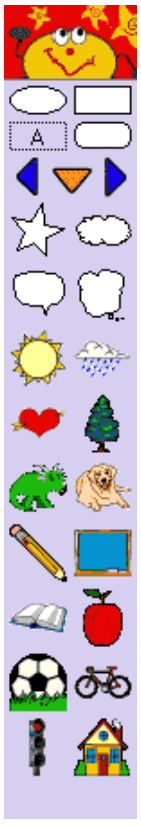
Draw Programs

Here are the tool palettes of several draw programs. Once again, if you look closely, you will see tools which are common to all the programs, from the simple (Kidspiration) to the very complex (Illustrator).

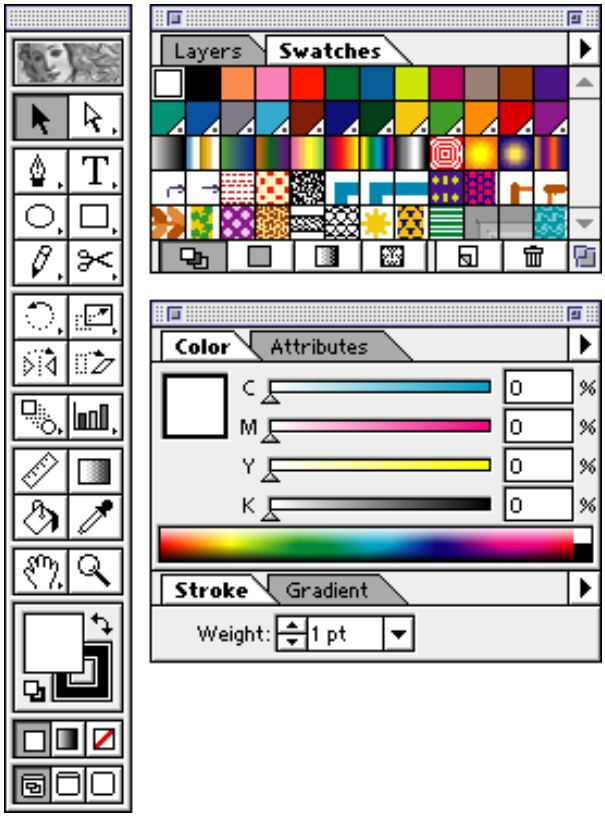
Decorra EazyDraw



OpenOffice Draw



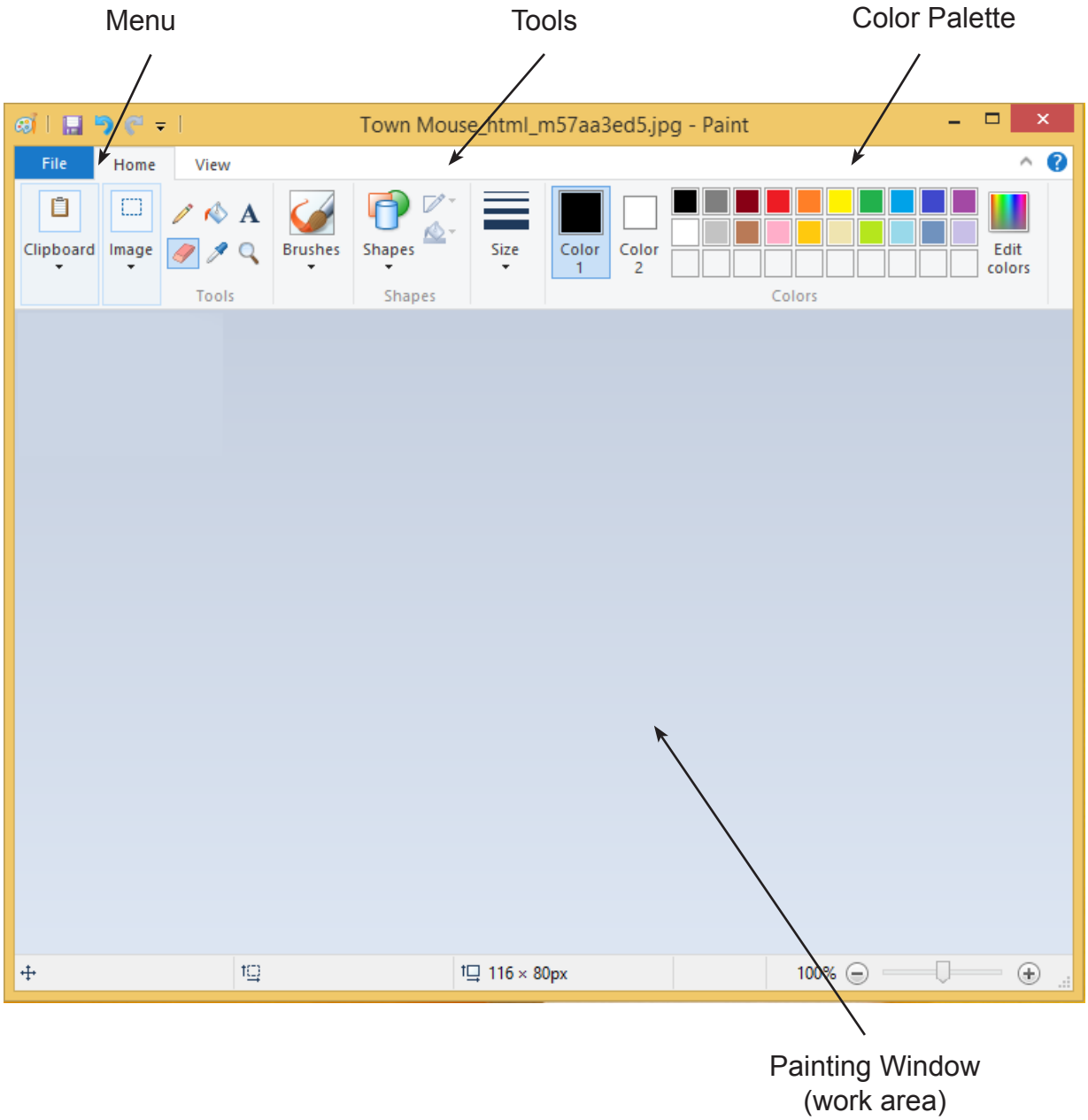
Kidspiration



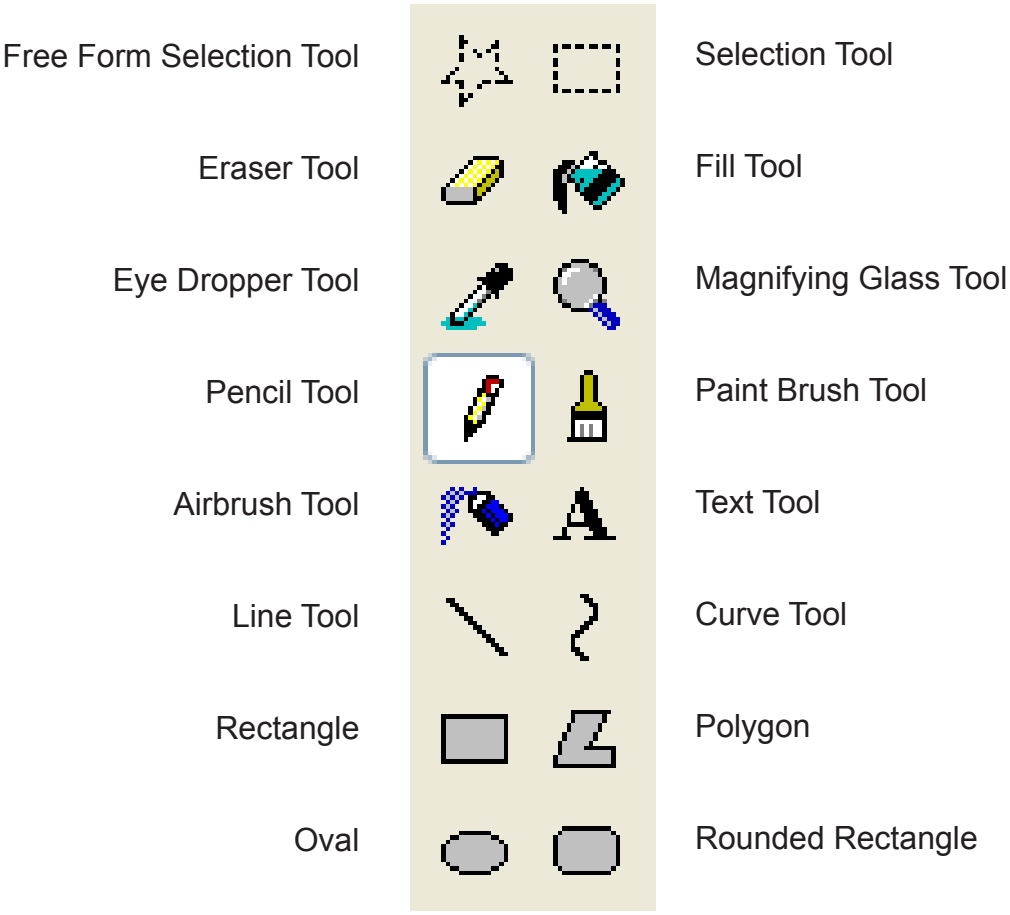
Illustrator

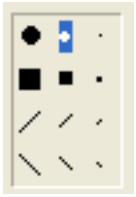
Parts of a Painting Document - Microsoft Paint

A paint program, like most other productivity programs, is made up of several parts. Typically, there is a work area, one or more tool palettes and a menu. Choosing a tool from the palette allows you to 'virtually' use a pencil, paintbrush or eraser (Windows 8.1 Paint illustrated)



Painting Tools - Microsoft Paint

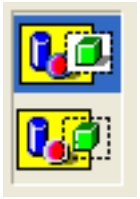




After selecting the Paint Brush, you can change its size and shape.

After selecting the Line tool, you can change its thickness.

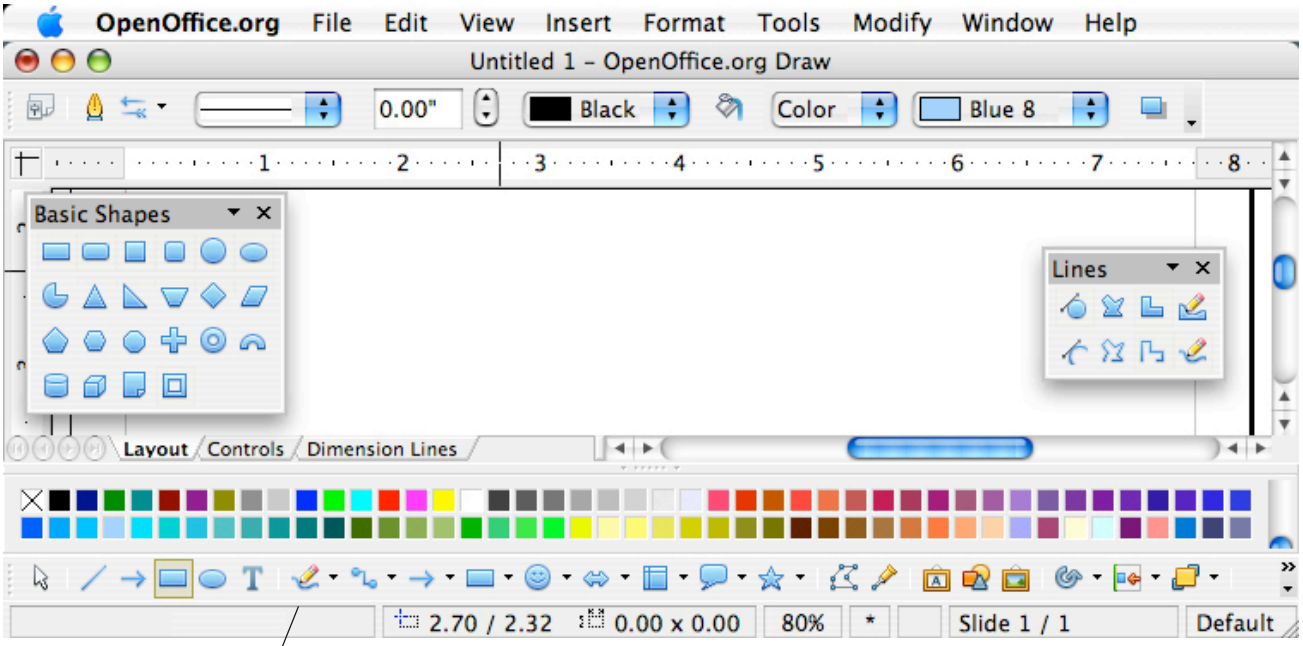
After selecting the Airbrush, you can change its flow.

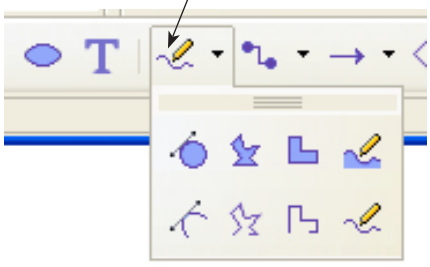


After selecting the Text Tool, you can change its opacity.

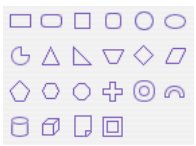
Parts of a Drawing Document - OpenOffice

One way to think of drawing is to equate it with mechanical drawing or drafting. It does not have a great deal of artsy flourishes to it, but it is very accurate. With drawing, you can create flow charts, newsletters, collages, floor plans, and the like.

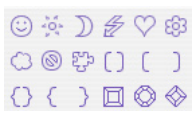




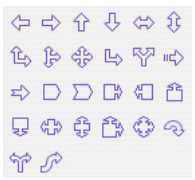
Pop up menus from the Toolbar can be ‘torn off’ and moved anywhere on screen for easy access.



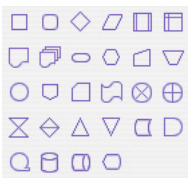
Basic shapes



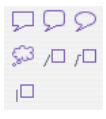
Symbol shapes



Block arrows



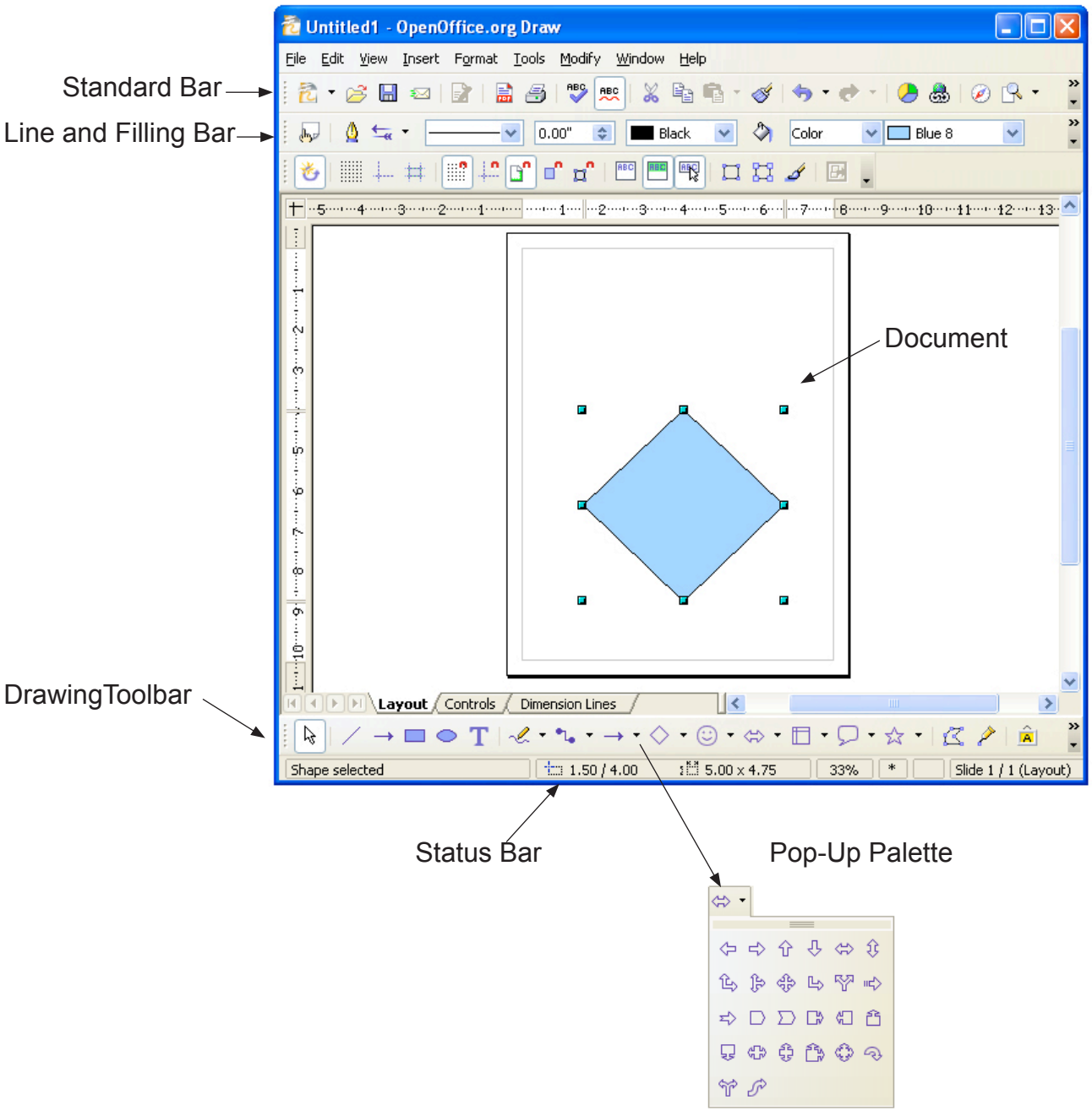
Flowcharts



Callouts

Stars

Drawing Tools - OpenOffice



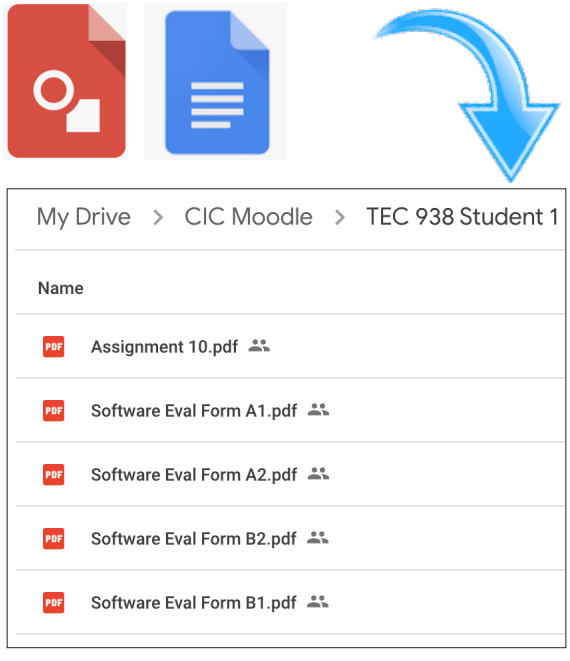
Graphics Projects (Choose Two)

1) Using a lesson plan format with which you are most comfortable (and makes this exercise useful, beneficial, and meaningful), design a lesson plan for elementary, middle school, or high school students in which they use a graphics program to create a picture. It might be a scene from a story they have read or an illustration of a subject you are studying. Younger students may only be asked to use simple tools (such as lines and shapes). Older students should be required to use more sophisticated tools and techniques (patterns, perspective, etc.). If you do not have access to students (i.e. you are taking this class over summer break) and can not present the lesson, omit the evaluation portion of the lesson plan.

2) Using a graphics program at your disposal (use the OpenOffice draw module or the online www.jspaint.app if you do not have a graphics program), create an example of what it is you asked of your students in the above lesson. Use as many of the tools as possible. Print out and return a copy of your creation (black & white will suffice).

3) Create a graphics-rich document you would use for your class such as a quiz, newsletter, calendar of upcoming events or flier announcing open house or a school play. Print out and return a copy of your creation (black & white will suffice).

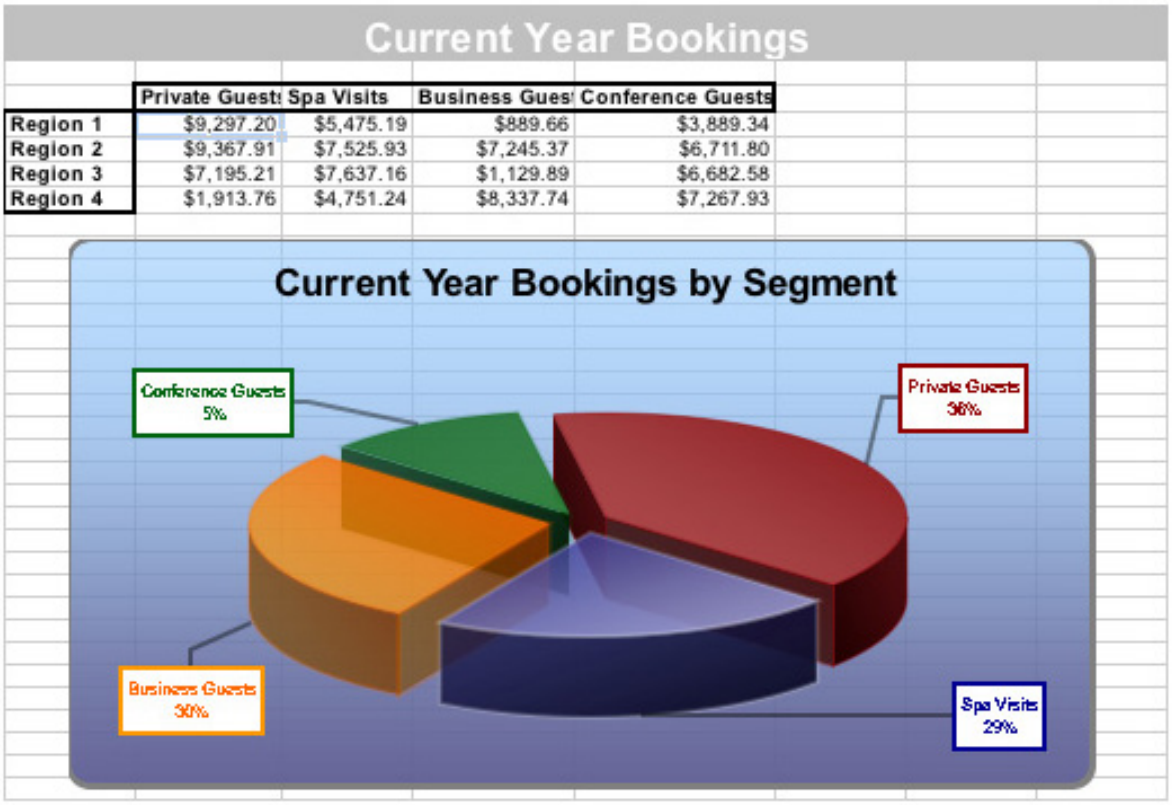
After you have created and saved each project to your computer, drag the completed document into your Google Drive TEC 938 folder. Make sure you name the document with an appropriate name, such as ‘GR1’ or ‘Graphics part 1’.



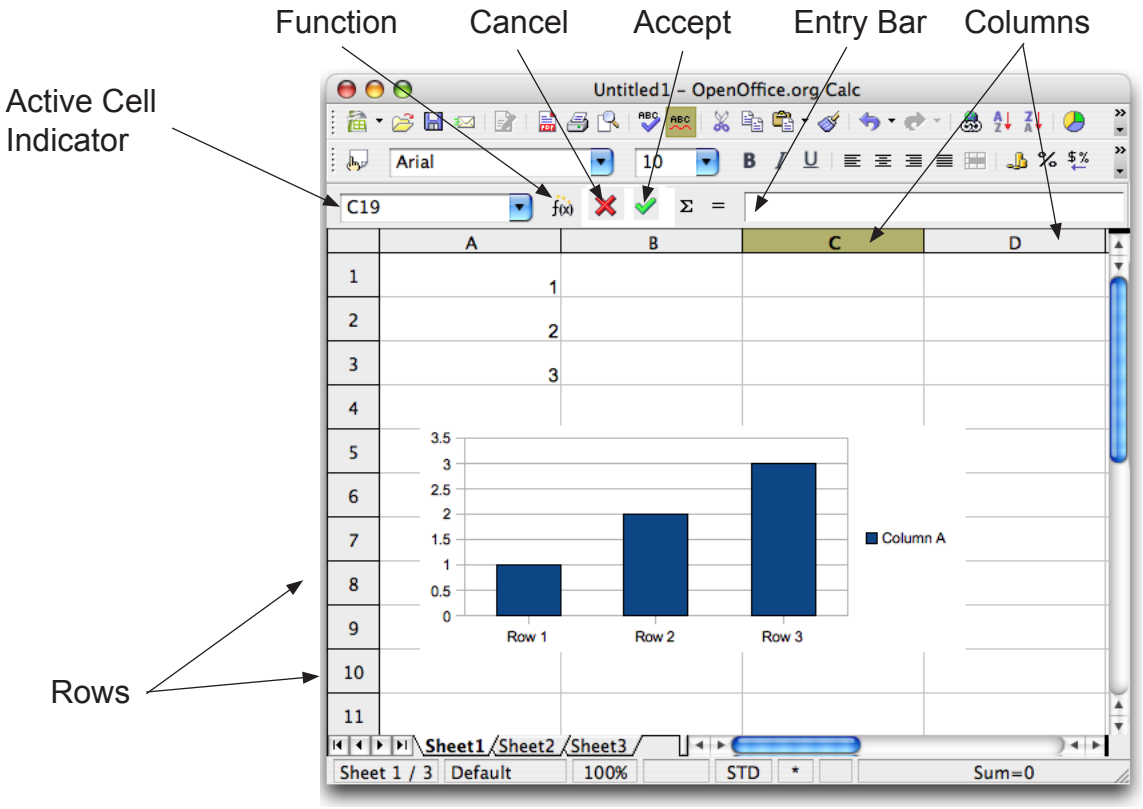
Learning with Spreadsheet Tools

Spreadsheets are valuable tools for compiling data, organizing and recording simple statistics, and providing a visual representation of data through graphing. Many teachers are integrating spreadsheets into their classroom lessons allowing students to play a more active role in their learning. Students can change variables and instantly see results of data analysis and calculations.

Technology can help promote students' understanding of mathematical concepts, quantitative reasoning, and achievement when used as a tool for solving problems, testing conjectures, accessing data, and verifying solutions.



Parts of a Spreadsheet - OpenOffice



A Calc spreadsheet consists of a grid of 1024 columns and rows. Each square in the grid is called a **cell**. The location of the cell can be identified by its coordinate Column and Row. **Columns** are identified with letters and represent the vertical cells, while **Rows** are identified with numbers and represent the horizontal cells.

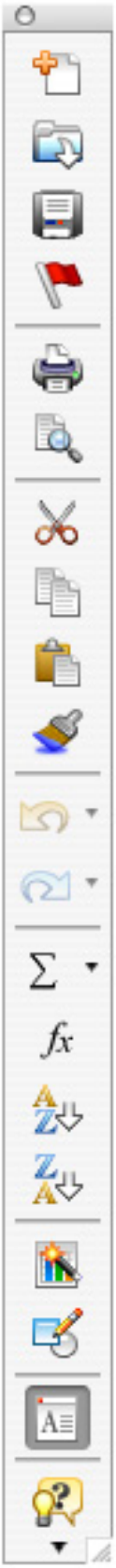
The **Active Cell** is the current cell selected. Use the **Formula toolbar** to type information into this cell. Once the text, formula, or number is entered, use the **Accept** button, *Return key*, or *Tab key* to record the entry. *Return* selects the next row cell, while *Tab* selects the next column cell. The **Cancel** button deletes the contents of the Entry Bar without changing the current contents of the cell. Pressing the delete key erases data in a selected cell.

Clicking on a Row or Column heading (i.e. the 'A') selects the entire row or column. Dragging the mouse over a range cells selects those cells.

A **Function** is a formula that performs some operation. For example SUM(D3...D13) is a Function that adds all of the contents in cells D3 through D13. The answer goes wherever the formula is, so if this formula is placed in cell D14, the total would appear there.

Spreadsheet Tools - Excel*

Name box Cancel Enter Calculator Name bar



New blank document

Open

Save

Flag for later follow-up

Print

Print preview

Cut

Copy

Paste

Format Painter

Undo

Redo

Autosum

Paste function

Sort ascending

Sort descending

Chart wizard

Drawing

Formatting Palette

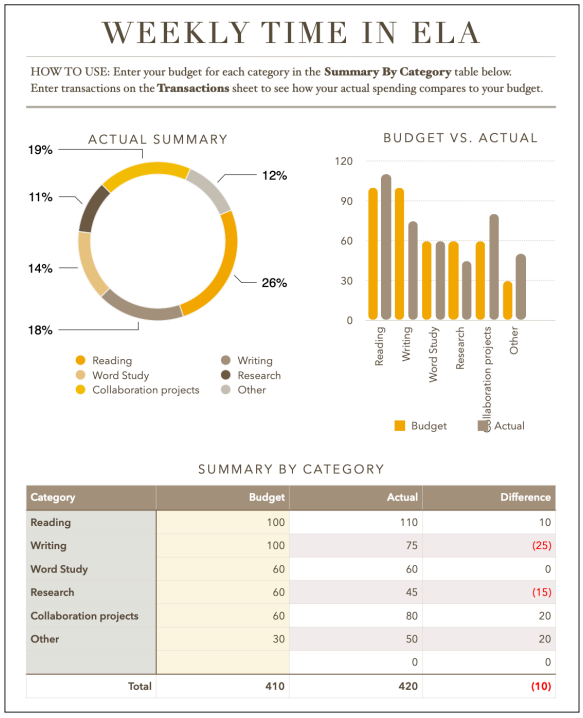
Office Assistant

Spreadsheets Projects (Choose Two)

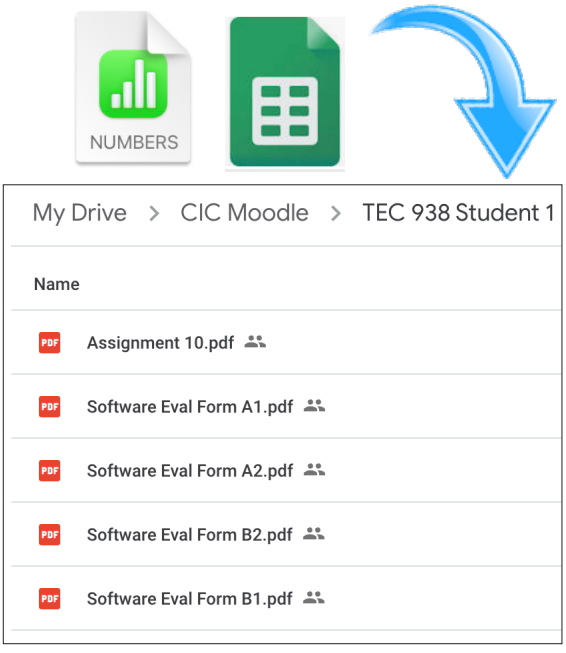
1) Using a lesson plan format with which you are most comfortable (and makes this exercise useful, beneficial, and meaningful), design a lesson plan for elementary, middle school, or high school students in which they use a spreadsheet program to examine and make a decision about a problem. Try to combine several functions found in spreadsheet programs. Younger students may only use simple functions (adding columns or auto-fill). Older students should be asked to use more sophisticated functions (averages, graphing/charting, complex equations). If you do not have access to students (i.e. you are taking this class over summer break) and can not present the lesson, omit the evaluation portion of the lesson plan.

2) Create a "Grade Book" for five hypothetical students. Be as creative as your comfort and skill levels allow. Print and return a copy of your spreadsheet.

3) Using a spreadsheet program at your disposal (Excel, Apple Numbers, Google Sheets) or the OpenOffice program, create a spreadsheet that you might use in your classroom. It could be a chart to keep track of books read by each student (with the number of pages of each book), a budget for a school carnival, or charting demographic information about your students. Print and return a copy of your creation.

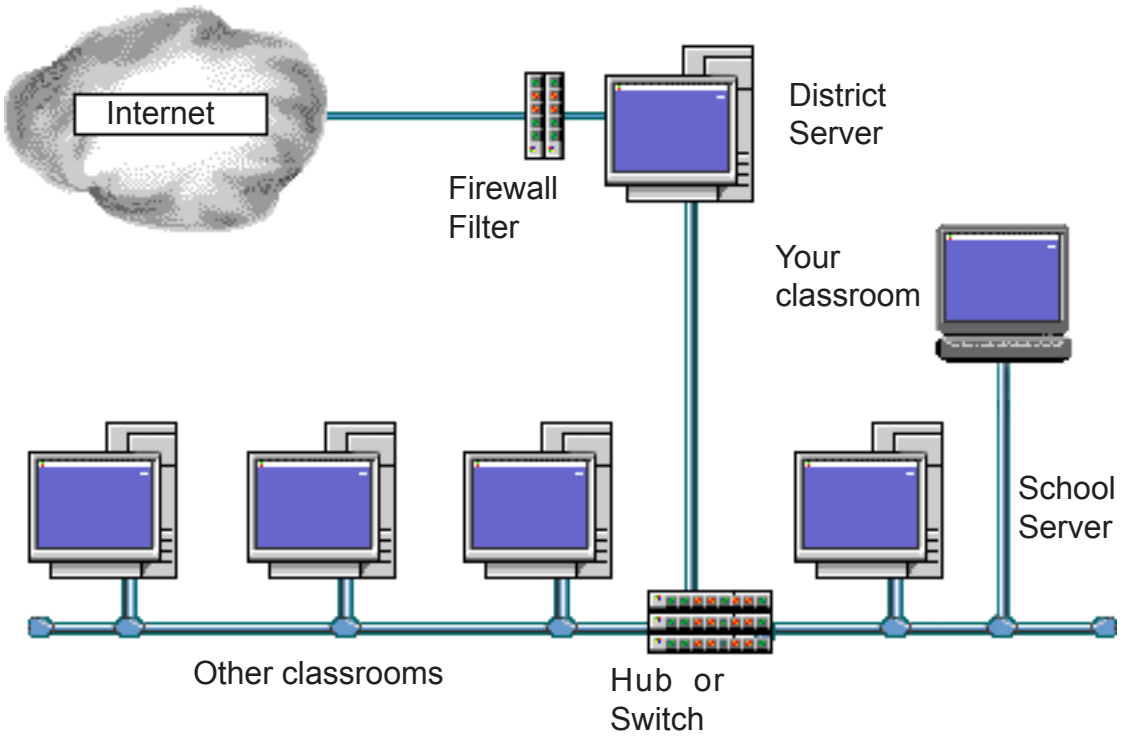


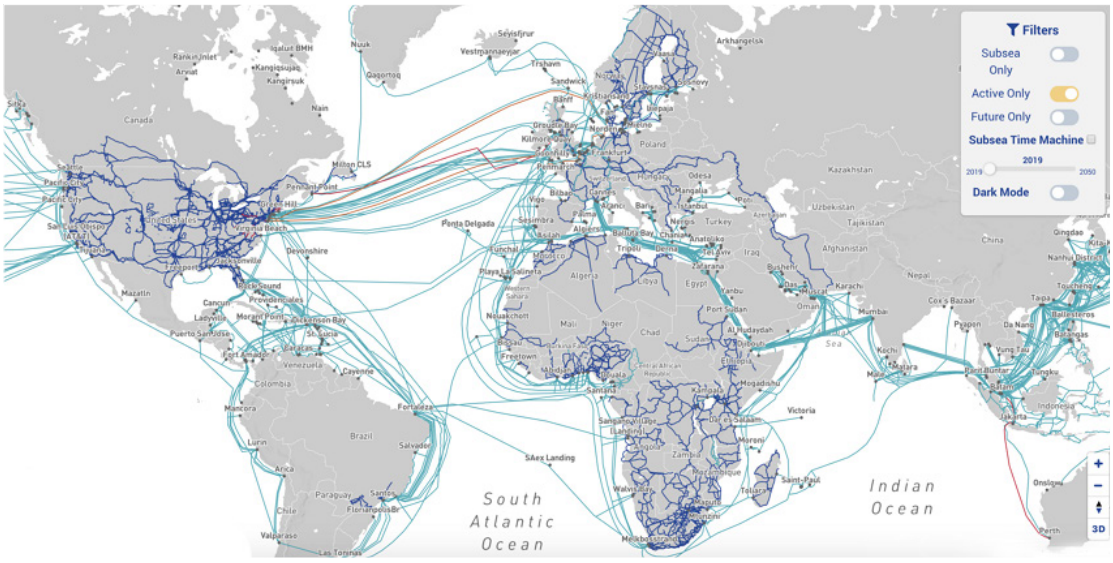
After you have created and saved each project to your computer, drag the completed document into your Google Drive TEC 938 folder. Make sure you name the document with an appropriate name, such as 'SS1' or 'Spreadsheet part 1'.



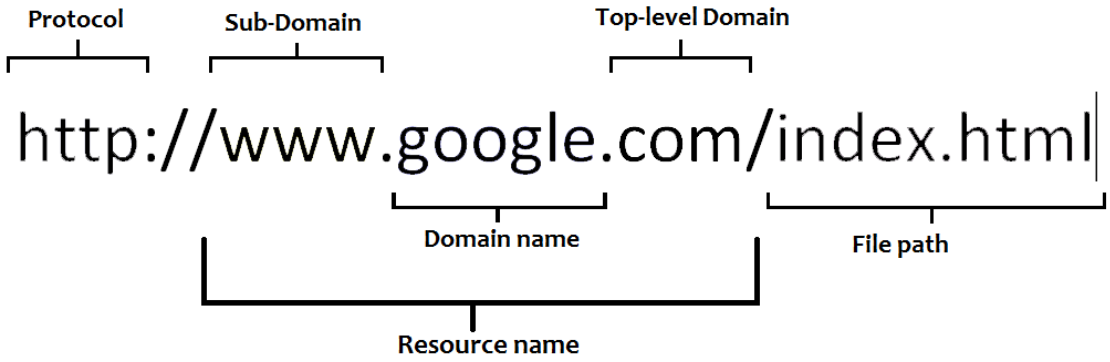
Learning with Internet Tools

The Internet is the global system of interconnected computer networks that uses the Internet protocol suite (TCP/IP) to communicate between networks and devices. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies. The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail, telephony, and file sharing.





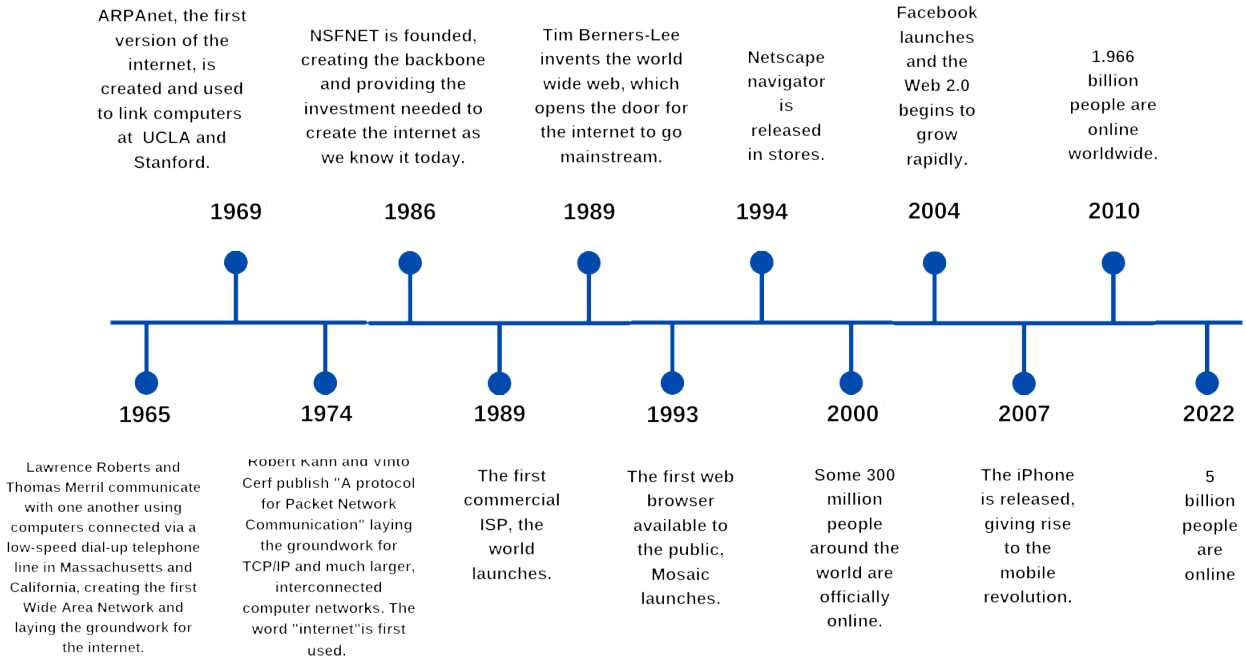
Anatomy of a URL (Universal Resource Locator)



Internet Suffixes (Top Level Domain)

.edu educational	**.org** non-commercial or nonprofit	**.k12** K -12 schools
.gov government	**.mil** military	**.biz** business
.com commercial	**.net** network management	**.blog** blog

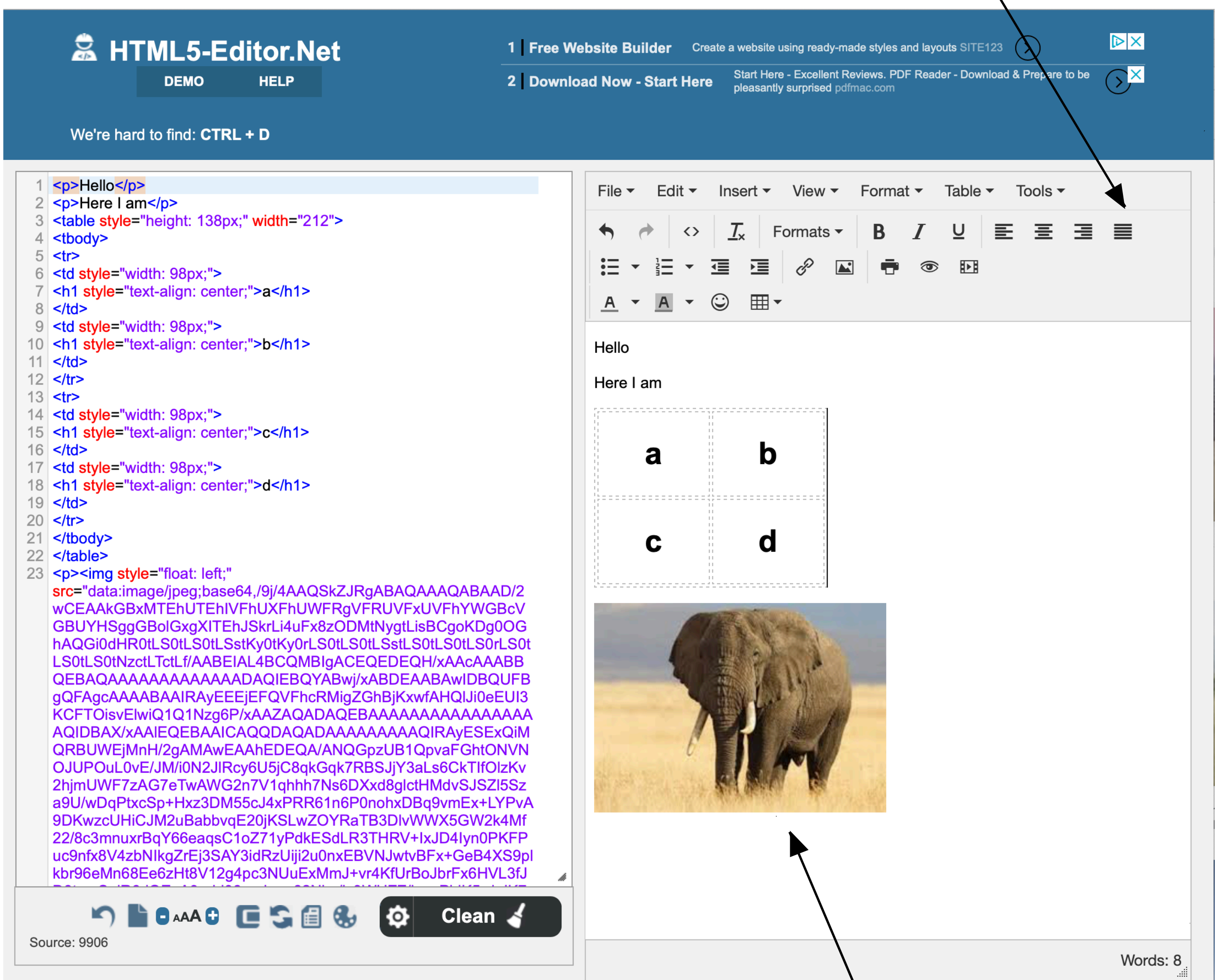
Internet Timeline



HTML (Web Page Design)

For older students, you may want to look at HTML (hypertext markup language). This is the primary computer code for web pages. This simple HTML editor allows you to type in text, add pictures and do simple formatting just as you would in a word processor. The site then automatically creates the HTML code and places it alongside your page.

Button Bar Tools



Document Window

HTML (HyperText Markup Language)

Publisher's web site: *https://html5-editor.net/* *A link is provided on the course website*

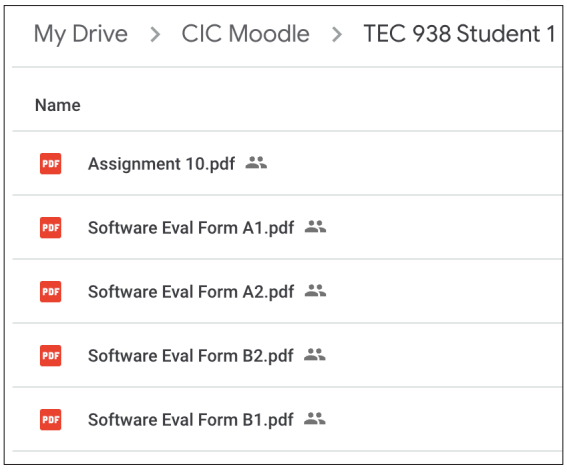
Internet Projects (Choose Two)

1) Using a lesson plan format with which you are most comfortable (and makes this exercise useful, beneficial, and meaningful), design a lesson plan where elementary, middle school, or high school students would interact with peers, experts and other audiences. This could be a project that could involve individuals in other schools in this country or abroad. You can use your e-mail account (most districts do not allow students access to their own e-mail accounts) and proxy for the class. If you do not have access to students (i.e. you are taking this class over summer break) and can not present the lesson, omit the evaluation portion of the lesson plan.

2) Go to **http://www.schrockguide.net/critical-evaluation.html** where you will find Kathy Schrock's Critical Evaluation Surveys (for elementary, middle and secondary school level. Using the downloaded form(s), evaluate your choice of any two web sites. Add the finished forms to your portfolio to upload at the end of the course. The QR code is shown to the right.

3) Using programs at your disposal, design and build a simple web page. Include a title, some text, at least one image and a hyperlink to another web page. Save the finished project (screen capture or print to PDF). Add the finished project to your portfolio to upload at the end of the course. The intent of this exercise is gain an understanding of the coding which goes on 'behind the scenes' of a web page. To construct a web page for your classroom or school, I would suggest using one of the dedicated web page creation sites, such as www.wix.com or www.html5-editor.net You can see an overview of online web page creation at: https://www.websitebuilderexpert.com/how-to-build-a-website/

After you have created and saved each project to your computer, drag the completed document into your Google Drive TEC 938 folder. Make sure you name the document with an appropriate name, such as 'INT1' or 'Internet part 1'.



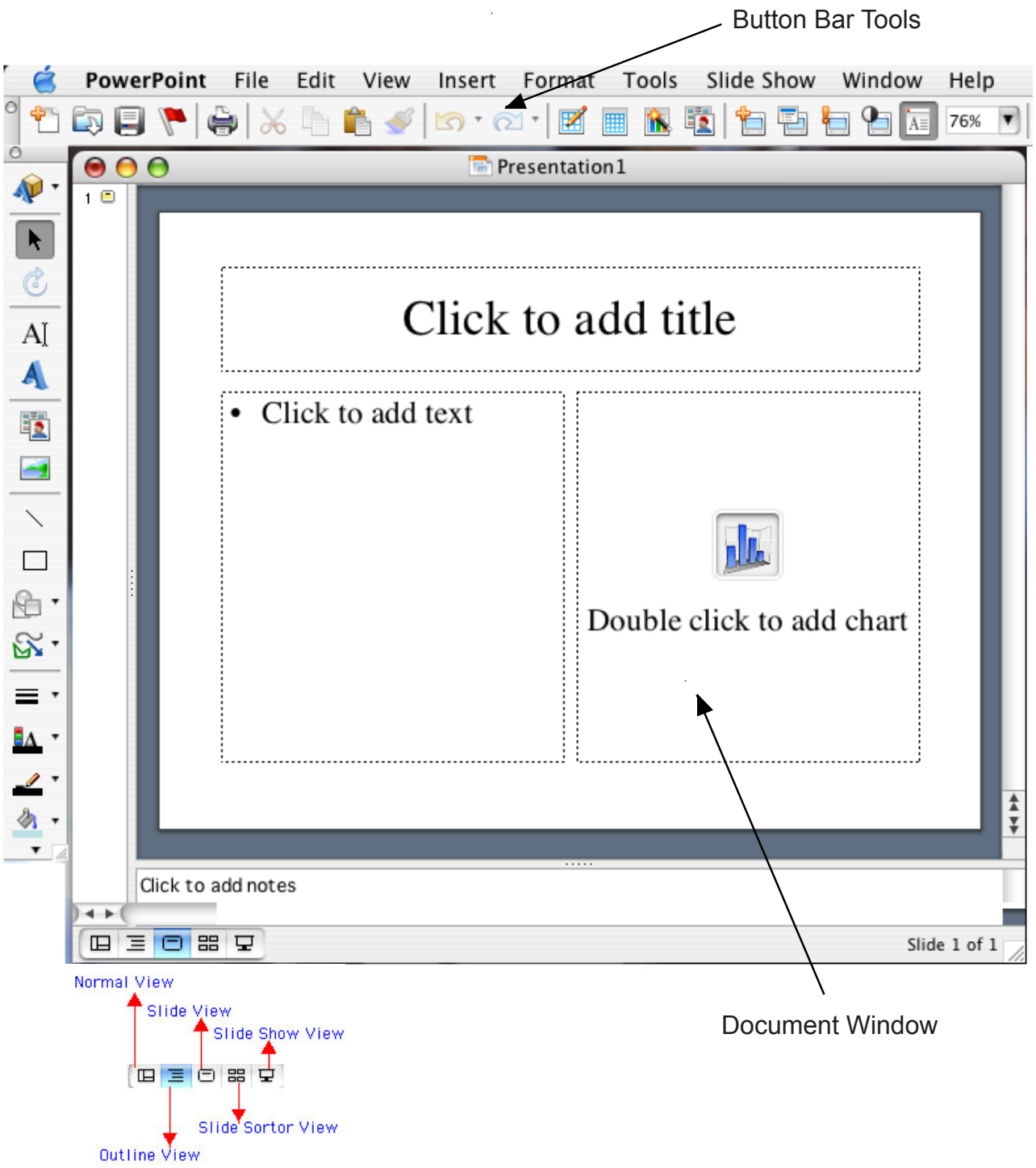
Learning with Multimedia Tools

In this day and age of video games, movies with special effects, and all the other optical and mental stimulations which children are exposed to, we need to adjust teaching methods to address their current learning style. The method of teaching students today must be more interactive and interesting in appearance and delivery. This is where incorporating multimedia as a teaching tool is very effective. Multimedia instruction is an interactive method of teaching and uses text, graphics, video, animation and sound to instill meaningful learning for students. Some advantages for using multimedia in the classroom are:

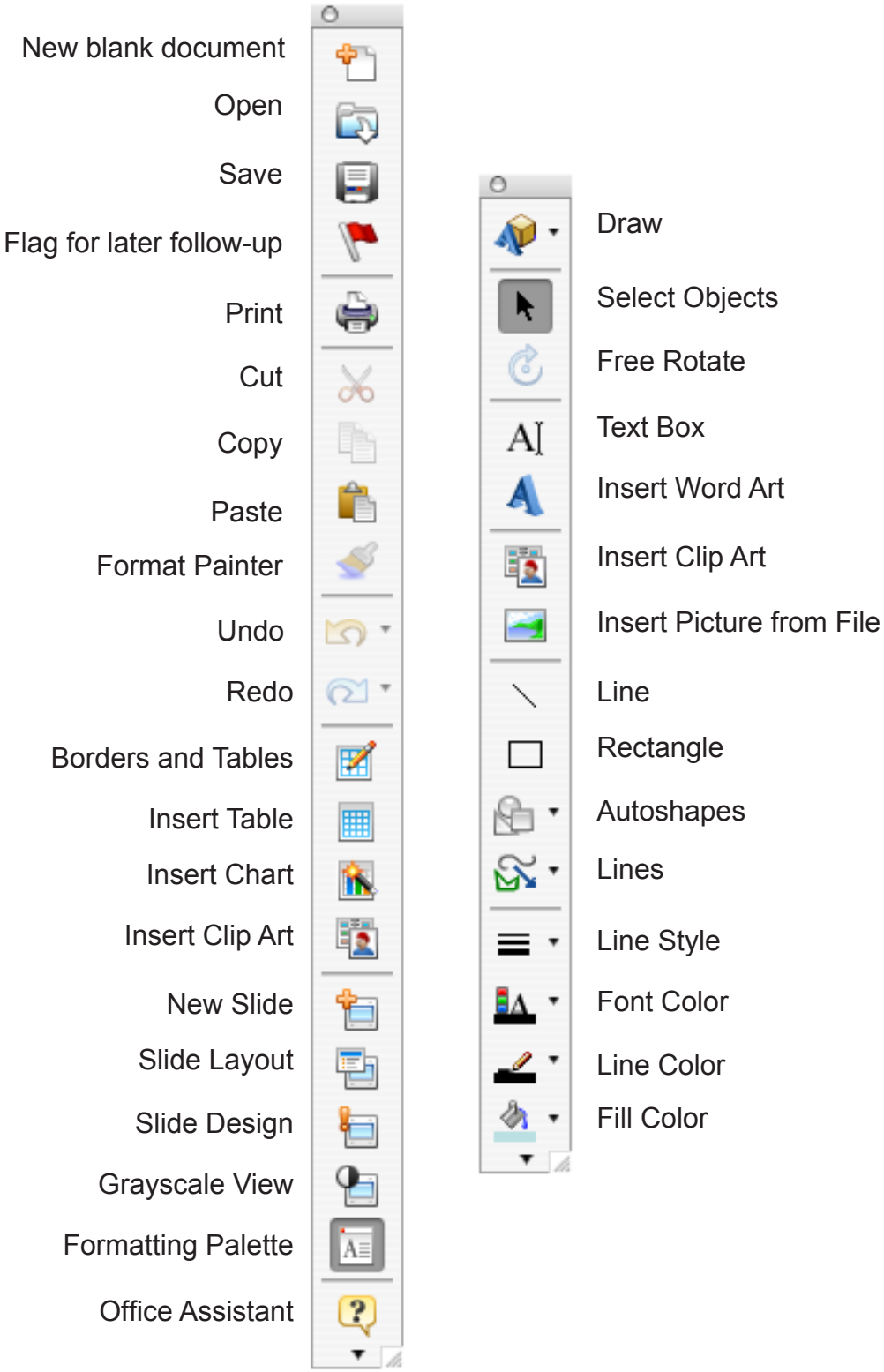
Students -

- are very motivated to learn
- take responsibility for their own learning
- take ownership in their assignments and work products
- are able to make connections with what they are learning
- are used to playing computer games, thus using multimedia is a familiar platform
- are able to work corroboratively with a partner or cooperative learning team
- can proceed at their own pace, thus facilitating their individualization in learning
- work is compiled into an easy to access and use portfolio

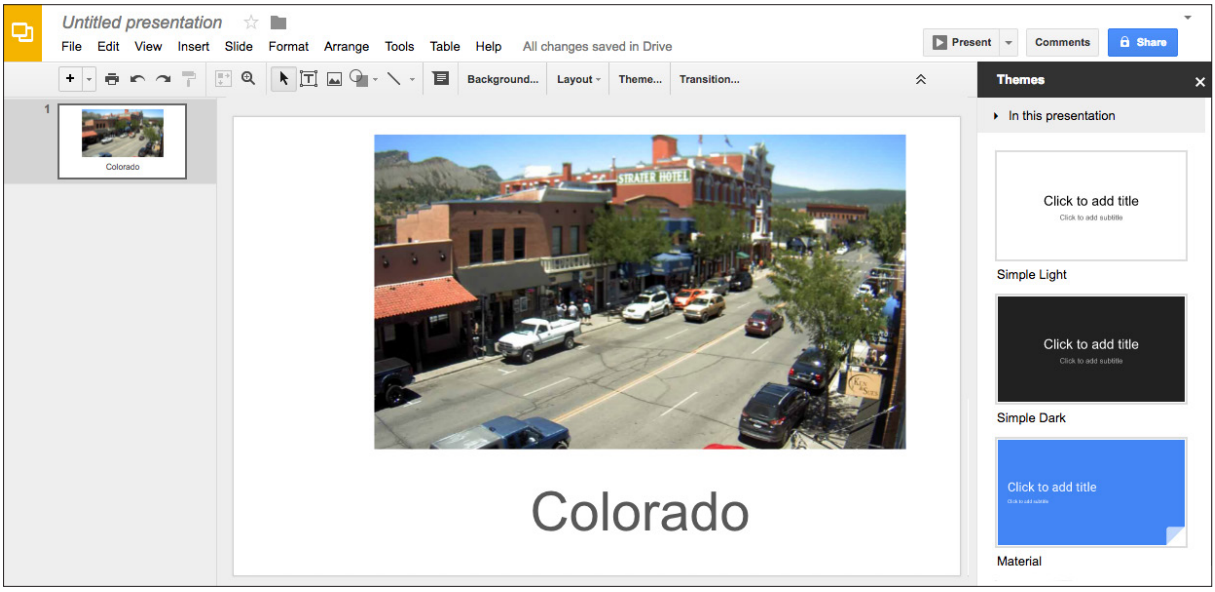
Parts of a Presentation Program - PowerPoint



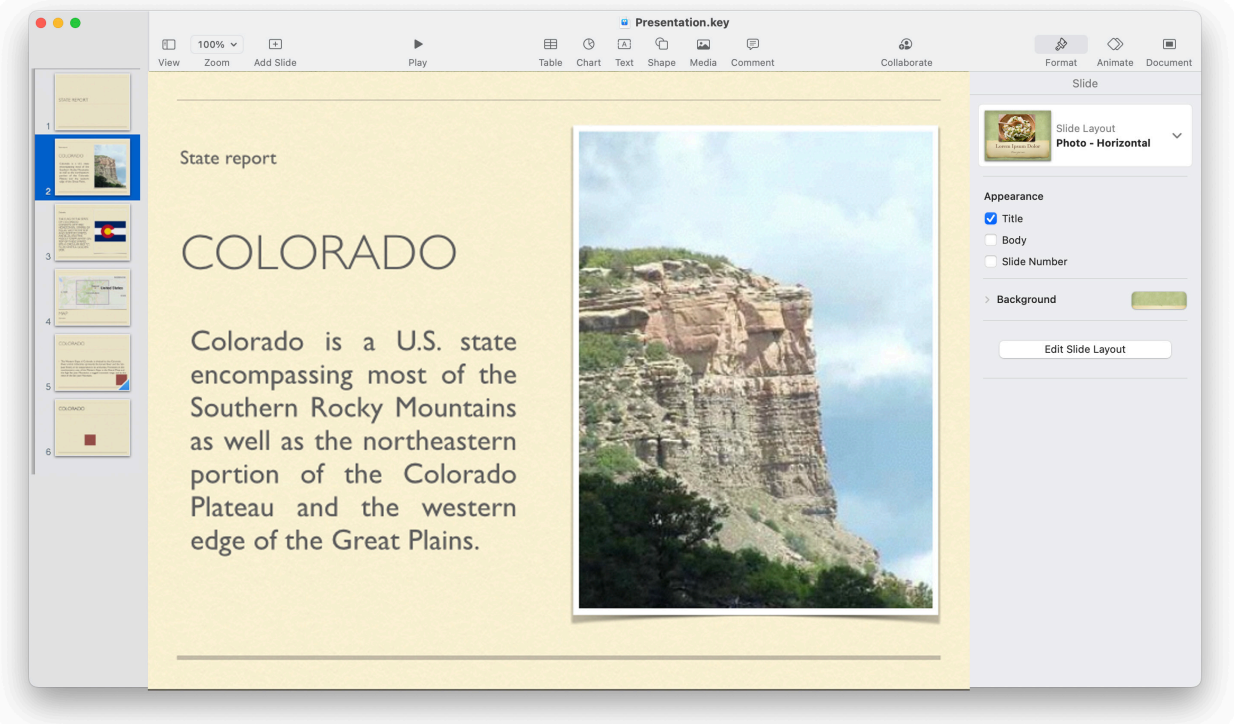
Parts of a Multimedia Program - PowerPoint



Google Slides

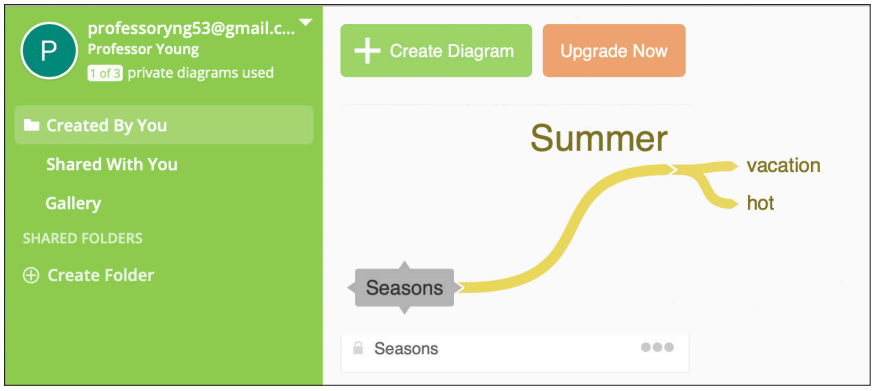


Apple Keynote

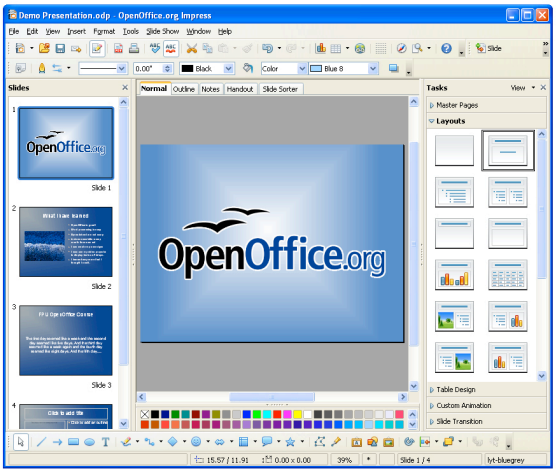


A link is provided to both these sites on the course website

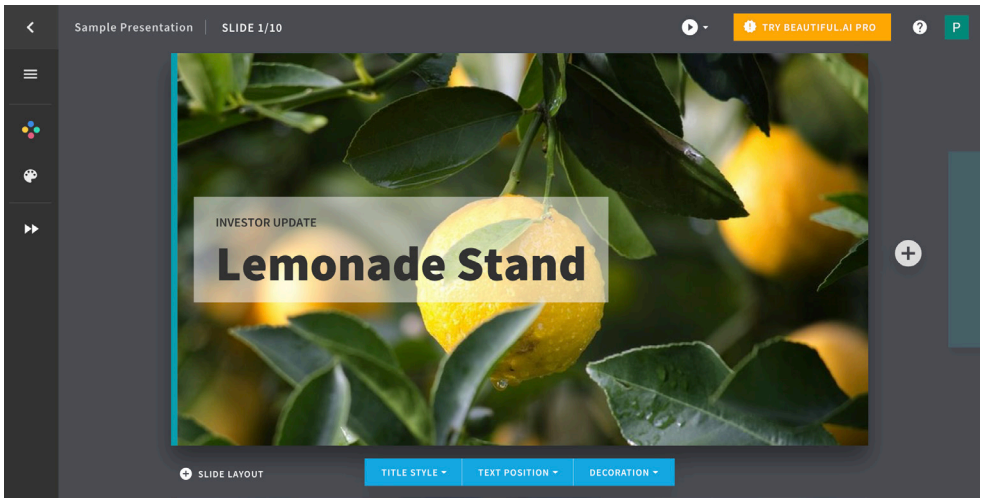
Coggle



OpenOffice Presentation Module



Beautiful AI



A link for all three of these sites is on the course website

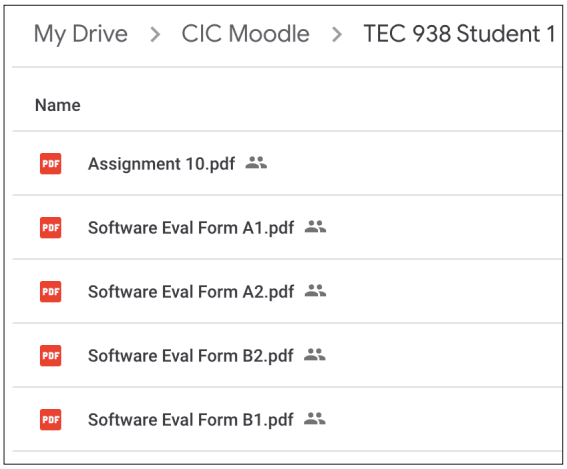
Multimedia Projects (Choose Two)

1) Using a lesson plan format with which you are most comfortable (and makes this exercise useful, beneficial, and meaningful), design a lesson plan for elementary, middle school, or high school students in which they will work in groups to design and produce a multimedia presentation. It may be about a subject they will be studying or any other area of interest. If you do not have access to students (i.e. you are taking this class over summer break) and can not present the lesson, omit the evaluation portion of the lesson plan.

2) Create a list the programs available to you that would qualify as multimedia computer programs indicate which aspect or aspects of each program you feel is its greatest strength.

3) Using programs at your disposal or mentioned in this workbook, design and build a simple multimedia project for your classroom. Add the finished project to your portfolio to upload at the end of the course.

After you have created and saved each project to your computer, drag the completed document into your Google Drive TEC 938 folder. Make sure you name the document with an appropriate name, such as ‘MM1’ or ‘Multimedia part 1’.



Learning with Video & Animation Tools

The extension of multimedia is motion graphics in the form of live action video and animation. Your phone probably has an app which can edit video which, when I owned a film company, would have cost upwards of $50,000. Students can shoot, edit and distribute videos in near real-time. For classroom use, and especially younger students, animation is a great way to visualize movement.

Science shows that there is a connection between drawing things, and remembering things. Drawing things encourages people to think of topics in multiple ways, which makes them easier to recall later. Animating things takes this a step further. The addition of movement introduces repetition which reinforces the topic being learnt.

To illustrate concepts & knowledge. Reinforce the things students have learnt by getting them to create an animation with key information.

Particularly useful for Mathematics, students can display their thought processes and then tidy the animation up to show the final result.

Creative Writing. Present stories, animated comics, or short cartoons.

Video / Animation is a great way to jot down ideas for creative projects and motion concepts.

Presentations - add some motion to presentations by creating simple animations of the topic being presented.

Apple iMovie

www.brush.ninja

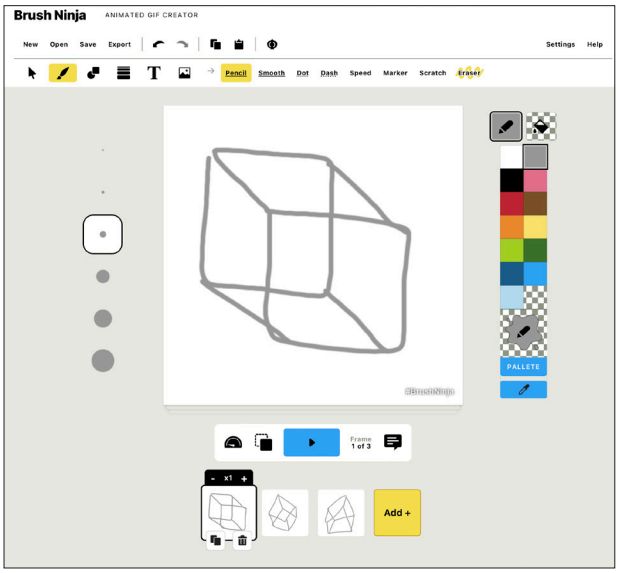
Brush Ninja is a fun tool that students can use to learn about animation, to illustrate the concepts they have just learnt, or to make their presentations more interesting. Alternatively it can be a fun, free, way for teachers to creatively present ideas to their students.

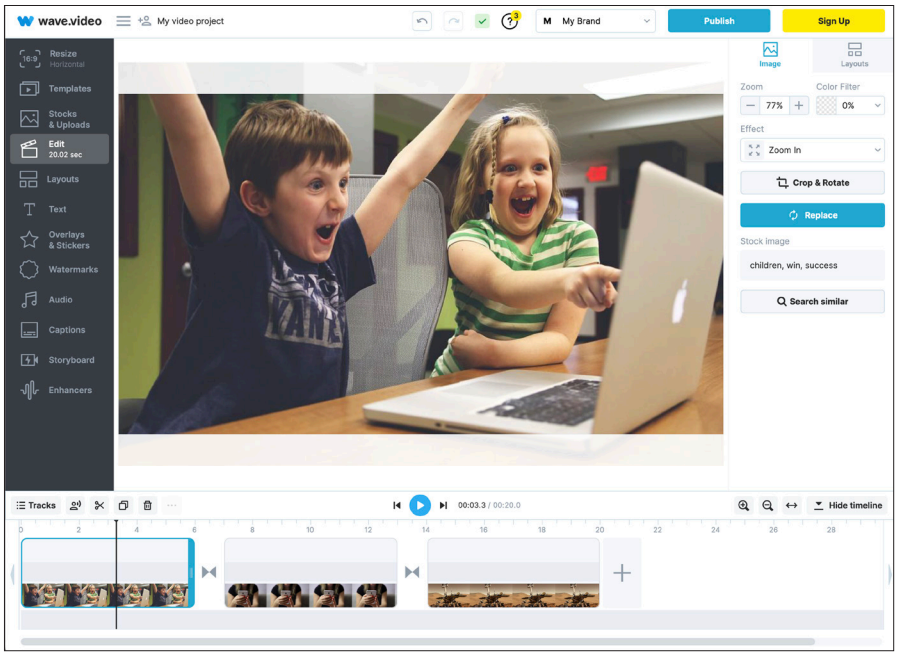
Science shows that there is a connection between drawing things, and remembering things. Drawing things encourages people to think of topics in multiple ways, which makes them easier to recall later. Animating things takes this a step further. The addition of movement introduces repetition which reinforces the topic being learnt.

Brush Ninja is free. No logins are needed.

It's simple to use - virtually no learning curve.

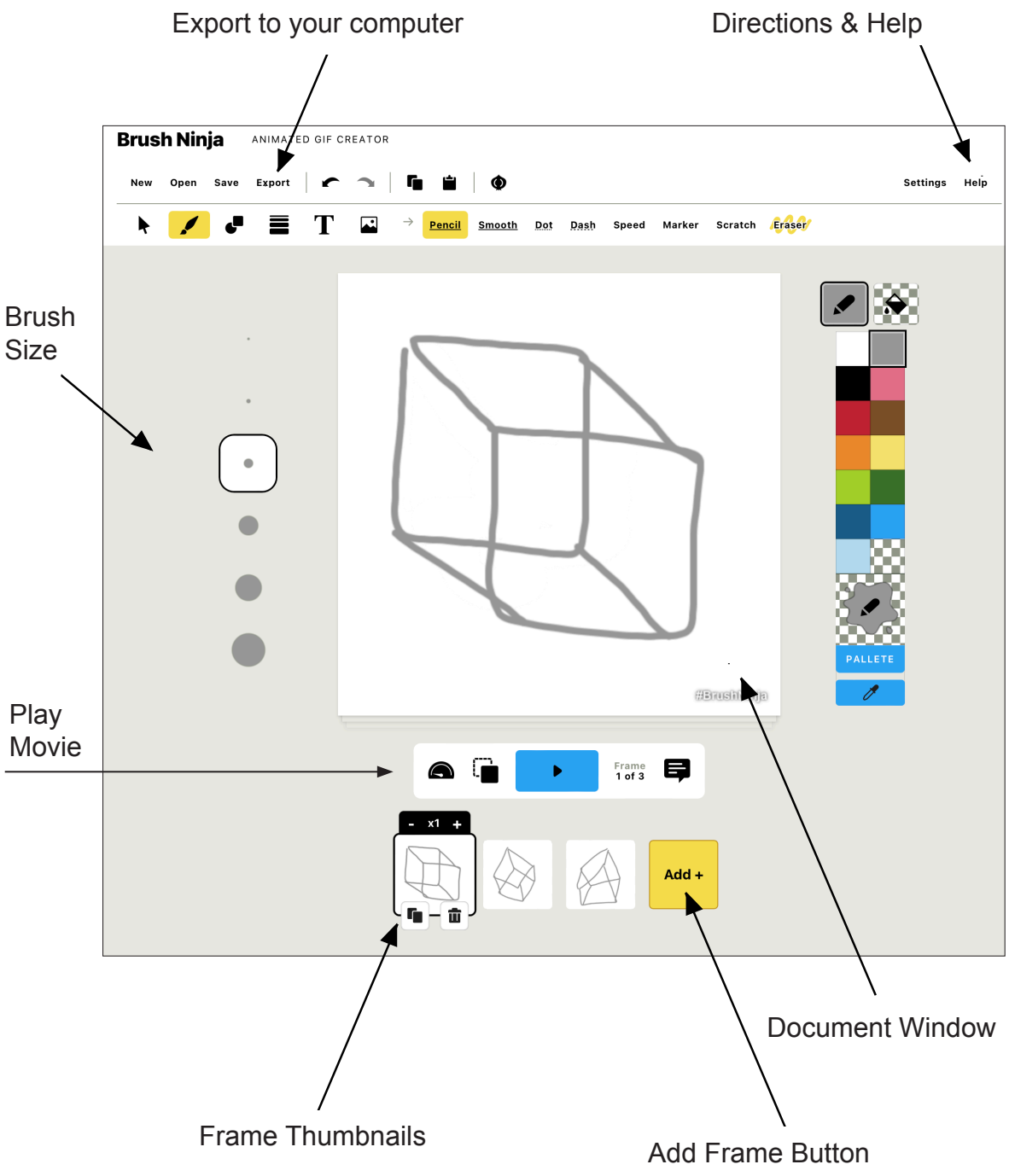
There's no tracking or advertising.





www.wave.video

Parts of an Animation App

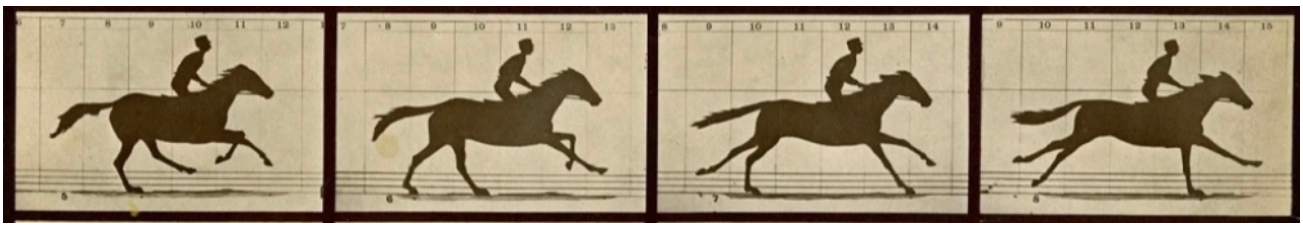


Video & Animation Projects (Choose Two)

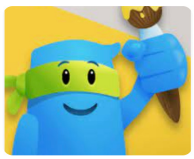
1) Using a lesson plan format with which you are most comfortable (and makes this exercise useful, beneficial, and meaningful), design a lesson plan for elementary, middle school, or high school students in which they will work in groups to design and produce a video or animation. It may be about a subject they will be studying or any other area of interest. If you do not have access to students (i.e. you are taking this class over summer break) and can not present the lesson, omit the evaluation portion of the lesson plan.

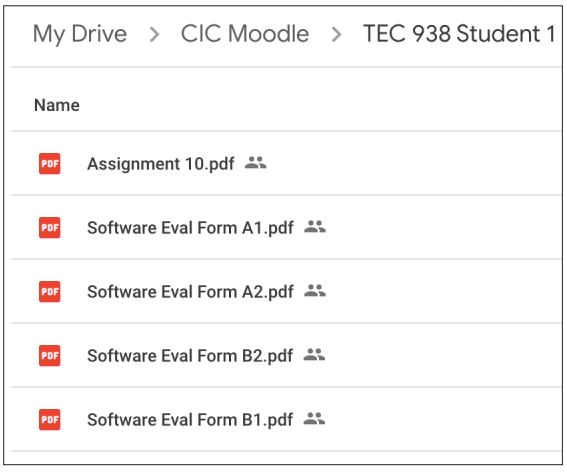
2) Using brush.ninja, create a simple (at least five frames) animation. Save the animation as an animated gif. Add the finished project to your portfolio to upload at the end of the course.

3) Using a video editor of your choice (i.e. iMovie on Apple devices or https://wave.video online) create a short video by editing together at least five different shots. Save the video and add the finished project to your portfolio to upload at the end of the course.



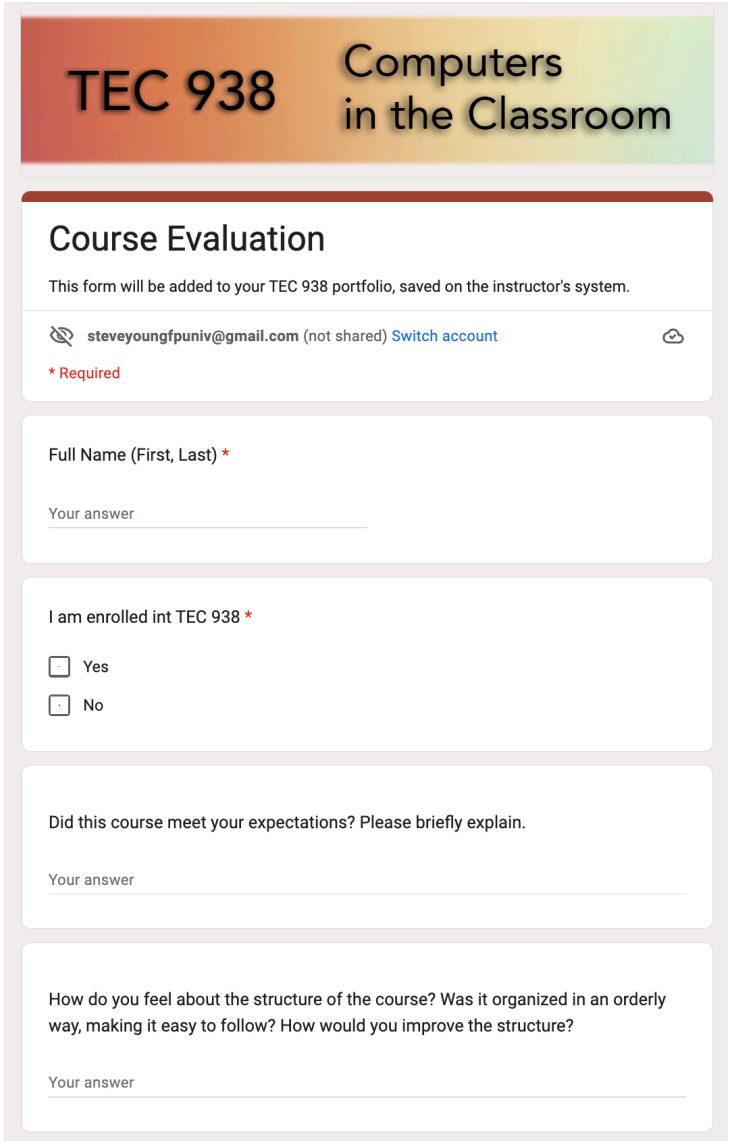
After you have created and saved each project to your computer, drag the completed document into your Google Drive TEC 938 folder. Make sure you name the document with an appropriate name, such as 'Video1' or 'Animation part 1'.





Assignment 21: Post Course Survey

I attempt to keep my courses current and relevant. As an elective assignment, I ask my students to complete a short course evaluation. I always appreciate your feedback and suggestions of how to improve the course. You will find the link to the course evaluation on the Moodle page and the course website.



Conclusion

LOOKING BACK ...

There is not likely to be a revolution in education. Instead, there will be a steady evolution that will involve integration of the new, along with the tried and true. In this [course] we have reviewed traditional learning theories and methodologies in order to show that computer-based learning will be most effective if founded on principles and practices that have proved themselves over centuries of experience teaching children.

. . . In all human achievement quality is characterized by careful preparation, conscientious implementation, and continuous evaluation, revision and reaffirmation of goals. The same must apply to the incorporation of computers into the curriculum.

. . . Technology can help you to individualize education in a way that has been elusive up till now. When classes are large, it is difficult for even the best-willed teacher to attend adequately to individual student needs. But carefully integrated computer-based learning environments can both enable the teacher to provide individualized learning experiences and free up the teacher to work one-on-one with students.

LOOKING FORWARD ...

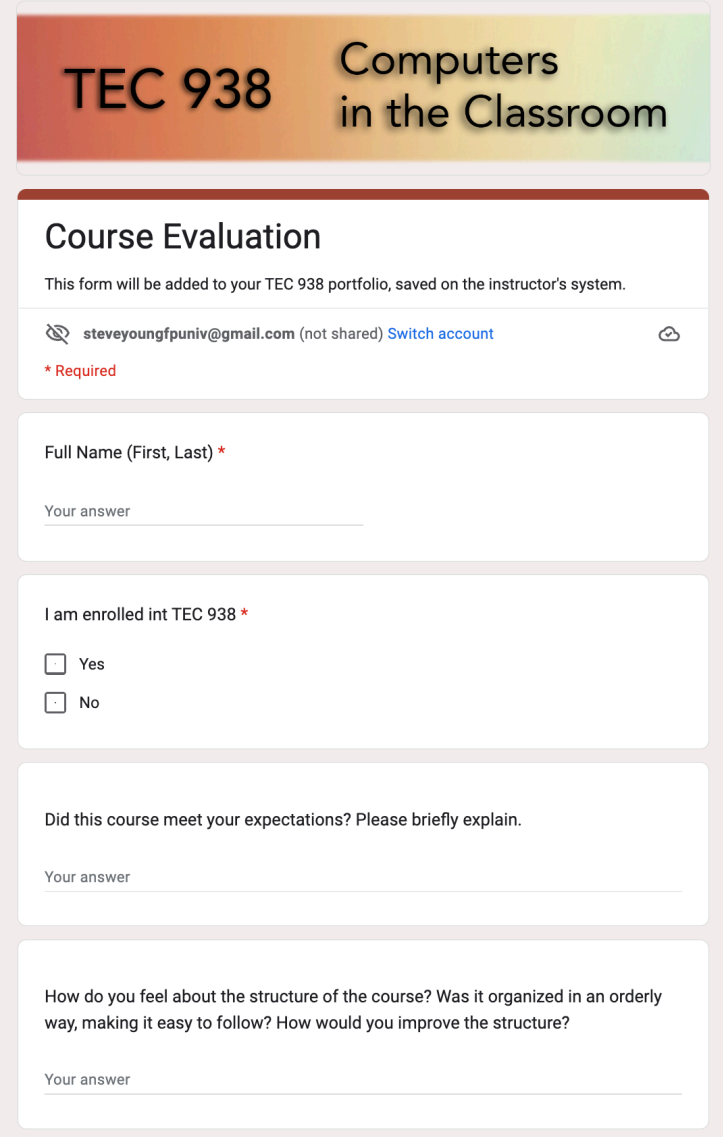
You have come to the end of our journey in this course, which is where your journey in integrating technology into your classroom begins. The fundamental content of this course has focused on practical matters relating to computer use in teaching and learning. While there are many important philosophical and pedagogical issues that relate to the management of computer-based learning, there are also many skills that must first be learned and then practiced so that the skills are not lost.

You must keep your computing skills well-honed by attending workshops, conferences and seminars. Practice a bit every day! The technology is charging ahead and is difficult to keep up with. If you are, or hope to be, in a school district where computer-based learning is supported by the community, take advantage of the opportunity to add to your skills and apply them in the classroom. Resolve to provide for your students the best-possible learning environment. As Eleanor Doan put it so well: “Good tools do not make a good teacher; but a good teacher makes good use of tools”.

Excerpted from *Education for an Information Age: Teaching in the Computerized Classroom* , 5th ed.

Course Evaluation

I attempt to keep my courses current and relevant. As an elective assignment, I ask my students to complete a short course evaluation. I always appreciate your feedback and suggestions of how to improve the course. You will find the link to the course evaluation on the Moodle page and the course website.



About Your Instructor ...

I was born in 1953 at the Presidio in San Francisco, California. The second child of Maj. John and Bette Jane Young, I was enthusiastically welcomed by my only sibling, a brother, six years my senior. After my dad retired from the Army he still had a touch of the wanderlust so we spent the next few years exploring Wyoming and Colorado. In 1963 we settled in Durango where Dana and I spent our days climbing trees, skipping stones across the Animas River, and exploring the La Plata mountains, which were our backyard.

In the late 1960s my parents moved back to the Bay area of California where I finished high school then went off to college, enrolling at California State University in Fresno. I majored in Mass Communications - a combination of English, Theater Arts and the technical aspects of radio, television and film production. I had those typical, youthful aspirations of becoming a 'rich and famous' script writer and filmmaker. Upon graduation I partnered with a local film production company and spent the next several years writing, producing and filming documentaries and television commercials.

A combination of the reality of parenthood and a souring economy in the early '80's guided my decision to return to school to obtain my teaching credential. The birth of my daughter in 1983 cemented my decision to opt for the stability of teaching over the uncertain world of the arts. I began as a classroom teacher at the same time computers were first being introduced to the public, in general, and schools. I have always had an affinity for machines and gadgets so I soon transitioned from 'traditional' teaching to working with technology in education; the best decision ever!

Within a year I was the Technology Teacher/Coordinator for a small high school; teaching programming in a lab and setting up local area networks. As technology evolved and became more affordable, the District purchased classroom computers and I, seeing the need, began writing record-keeping and database programs for teachers. By the early '90's I was assisting with technology District-wide and speaking at regional and state conferences. It was at this time I began teaching summer and weekend seminars at Fresno Pacific University (then Fresno Pacific College) on integrating technology in to the classroom. Through membership in CTAP (California Technology Assistance Project) I also provided professional development, planning, and implementation assistance to help schools utilize technology to support teaching and learning.

I recently retired after more than 30 years of service to Madera Unified School District. With my 'extra' time, I will be developing new courses for Fresno Pacific. My wife, Becky, and I enjoy interacting with teachers from all over the country - we recently began traveling across the US on Amtrak and have already logged over 10,000 miles riding the rails, making whistle stops at many of your hometowns!

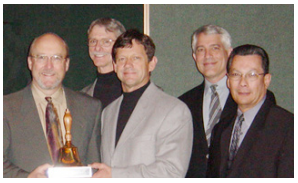
Using a Steadicam during the filming of a commercial for a regional TV station in the days before gray hair!

My beautiful bride Becky, on our wedding day! After all these years she's still the love of my life (and the world's greatest cook!).

Taking a break at my desk at Madera Unified, while administering an early (circa 1990) school-wide network.

Scuba diving (a passion of mine) with my daughter off the coast of Maui, in the beautiful state of Hawai'i.

Fishing the Animas River in Durango, CO, where my brother and I used to roam. Pretty nice catch! We only keep what we eat, and this one was delicious!



In San Francisco receiving California's prestigious Golden Bell Award for an exemplary program in technology, with Madera Unified school board trustees.

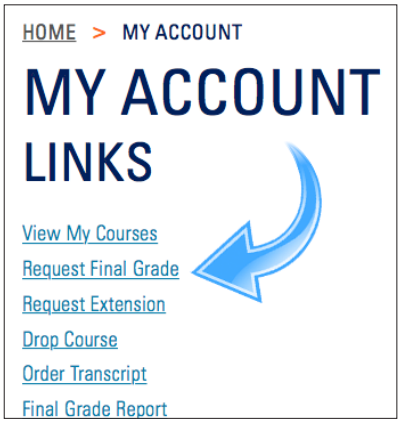
Visiting the St. Louis Arch with my wife Becky - a day trip from Indianapolis after attending the Indy 500.

Me with Becky's family, including her three children and all eight (so far!) of our grandkids, at Becky's parents' 60th wedding anniversary celebration.

DIRECTIONS FOR SUBMITTING A REQUEST FOR ONLINE GRADING

FPU requires I submit your grade online. For me to do that you must request online grading via your FPU account. When you've submitted your completed coursework (no sooner):

- Login to your account on the CPD website at ***https://ce.fresno.edu/my-account***
- Click on 'Request Final Grade'
- Select this course from the list of ungraded courses in which you are currently enrolled
- Click the box confirming accuracy of the information
- Click Submit
- FPU will email me that you have completed the course and are ready to be graded



Please submit your request for online grading the same day you submit your completed coursework (no sooner). I cannot submit your grade until online grading has been requested.

If I receive your final coursework but you've yet to request online grading, expect a delay while I attempt to contact you in reminder. If you encounter technical difficulties with the on-line grading system please contact FPU directly; I am unable to troubleshoot their system.

Once I have submitted your grade to FPU I will notify you via email that this has been ac-complished. Processing grades submitted electronically is not automatic; FPU strives to post grades the same day, but it may take up to 2 business days to certify and post your grade (FPU will email you once your grade has been posted).

Prior to ordering a transcript, particularly a '*RUSH'* transcript, verify your grade has *officially* been posted. Login to your FPU account and click Final Grade Report. If your grade in this course appears, print off your Final Grade Report (FPU no longer mails Grade Reports - you must print them out yourself) and proceed with ordering transcripts.

If this course does not appear, although I notified you I submitted your grade, please contact FPU (1-800-372-5505) directly with your inquiry. It may be they are 'holding' your grade for whatever reason, typically if you are over enrolled.

I hope you found the course beneficial. I'll keep an eye out for your packet, and look forward to reviewing your work! Again and as always, thanks!